

college **AND UNIVERSITY** **business**

AUGUST 1955

Regionalism in Higher Education

How to Purchase Athletic Equipment

The Proper Function of a Management Survey

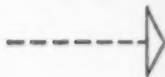
Custodial Work Load Standards

Food Service Layout Trends



ATHLETIC EQUIPMENT DISPLAY, UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES

**FROM
THIS**



1 This 27-year old classroom which has an illumination level of 15 footcandles is about to be transformed. First step was to repaint it light colors for better reflectance. Now follow the succeeding steps, which were all accomplished in 4 hours.



2 Step two was the mounting of the first Photo-Metric channel at the front of the room.



3 The second Photo-Metric channel is in place and conduit spacer has been quickly installed.



4 After channels are mounted, wiring from terminal blocks through conduit spacers is completed.



5 After existing electrical outlet is tapped, lamps are inserted and tested by being turned on.



6 Diffuser frame and spacer bar are assembled on floor, ready for mounting in hook-on points at sockets.



7 Adjoining diffuser frames are assembled together to complete the diffuser grid.



8 Wäkon diffusers are unrolled, pulled through diffuser channel, and held at ends by spring clamp.

**TO
THIS**



9 A complete diffuser installed, high level illumination provided, excessive brightness ratios reduced, ceiling cracks and surface wiring covered, and a visual environment designed for learning gained all in four hours installation time.

IN 4 HOURS

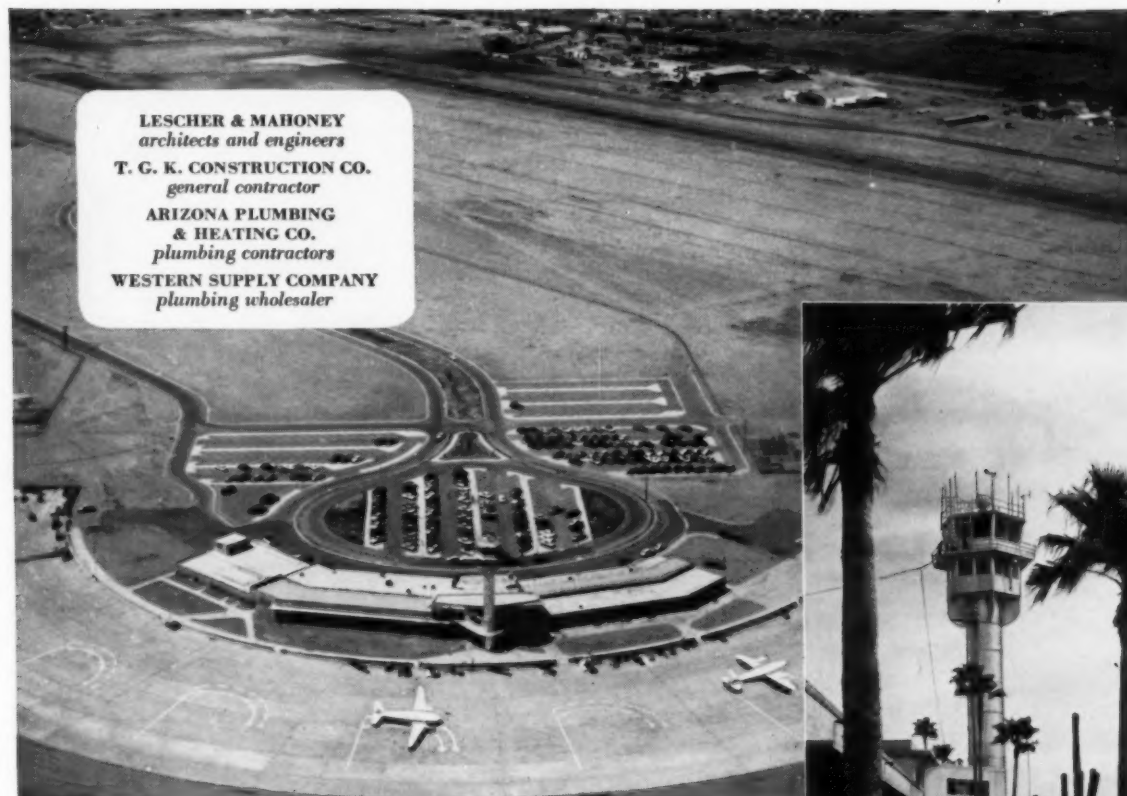
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Photo DON KELLER

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faction of one's trip are located on either side of the spacious, ultramodern main concourse. These include a large dining room providing a sweeping view of the field and the interesting scene beyond, an attractive coffee shop, cocktail lounge, gift shop and barber shop. As in thousands of other fine buildings, the terminal building at Sky Harbor is equipped with SLOAN *Flush* VALVES, famous everywhere for efficiency, durability and economy.



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Write for completely descriptive folder



ideas from
Blickman-Built
food service
installations

Architects: Holabird & Root & Burgee



MOBILE BANQUET TABLES PERMIT FLEXIBLE SERVICE

In the main kitchen, hot food is loaded into these tables which are then wheeled directly to banquet serving areas. Waste steps in serving are eliminated. All stainless steel construction assures long service life and a high degree of sanitation with minimum labor.

eliminating waste motion at Statler Hall, Cornell University

• Cornell University's Department of Hotel Administration is prominent for its educational leadership in the field of scientific hotel management. In its food service installation, functional stainless steel equipment plays a vital role in eliminating waste motion. The equipment is employed both for training purposes as well as for serving students, faculty and guests. The problem of integrating students' work areas with the main kitchen was solved by careful layout to permit smooth work flow. Significantly, the equipment is Blickman-Built . . . selected for its work-reducing, time-saving efficiency, low maintenance cost and high sanitary standards.

When you specify Blickman-Built stainless steel equipment for your mass-feeding projects, your installation will look right and work efficiently for many years to come.



**MOBILE BINS
ELIMINATE WASTE MOTION**

In the bake shop, mobile stainless steel bins below baker's tables are wheeled directly to the supply section for filling. Rehandling is avoided — waste motion eliminated. Since there is no fixed enclosure, there are no hiding places for vermin. With bins removed, area below table is easily cleaned.

This attractive illustrated folder gives more information about Blickman-Built food service installations. Send for your copy.



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Among the Authors



Harold L. Enarson

HAROLD L. ENARSON, executive director of Western Interstate Commission for Higher Education, discusses on page 19 the efforts being made by various regional groups to avoid duplication of expensive and competitive facilities for specialized graduate work among institutions in a limited geographical area. Mr. Enarson has written extensively and is co-author of a volume entitled "Emergency Disputes and Public Policy." His work takes him away from a desk most of the time as he attempts to visit with institutions in the West in solving the problem of providing proper facilities for professional and graduate education. When he has the time available he enjoys indulging in handball, and says that exploring new country by foot and automobile is one of his major hobbies. He confesses that reading "to excess" is one of his vices. Before accepting his present position he had served as executive secretary to Mayor Clark of Philadelphia.



Alan D. Ewen

ALAN D. EWEN, assistant director of athletics at the University of Southern California, describes on page 22 policies followed at his institution in the purchase and selection of athletic equipment. He is an alumnus of U.S.C., having graduated in 1943, after which time he served as a lieutenant in the army. In September of 1946 he accepted his present appointment. He is a member of Phi Delta Kappa, honor society in education, and Phi Alpha Theta, honorary historical society.



L. H. Lippincott

LINCOLN H. LIPPINCOTT, director of accident prevention at Yale University, describes on page 41 the safety program now in operation at Yale. He has been a militant crusader for safety education and for nine years served as superintendent of training for the Maryland Casualty Company at Baltimore. For a 10 year period he served as a consultant on safety engineering for Lumbermens Mutual Casualty Company of Chicago and for seven years was manager of the New Haven Safety Council in New Haven, Conn. He has lectured extensively on safety education, having given more than 1500 lectures on the subject in 31 states and Canada. His hobbies include color photography and collecting fossils and geographical specimens. He claims a special fondness for airedale dogs. If he has any time left, he devotes it to his four grandchildren.



Mary K. Bloetjes

MARY K. BLOETJES, professor and head of the department of institutional administration in the school of home economics at Florida State University, Tallahassee, on page 46 discusses recent trends relative to the proper design of food service facilities in colleges and universities. She has been very active in food services and dietetic work, and is a past president of the Greater New York Dietetic Association. She has written extensively for magazines, both in hospital and dietetic fields, and has been honored by being named as a recipient of the Mary Swartz Rose Fellowship, awarded by the American Dietetic Association and Nutrition Foundation in 1952.

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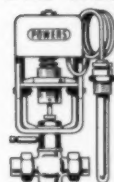
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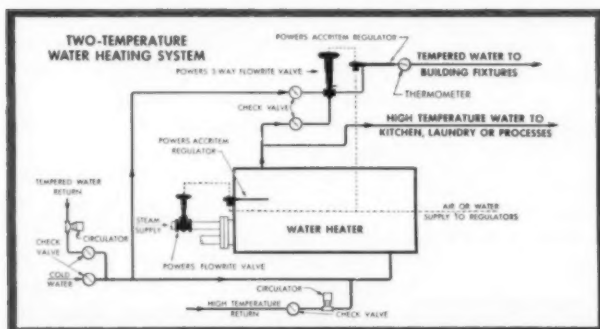


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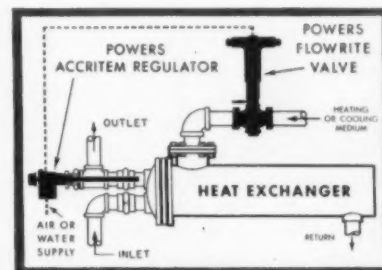
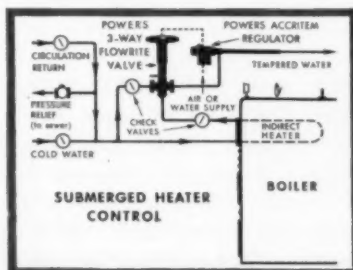
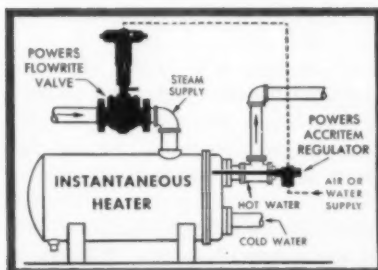


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QUESTIONS AND ANSWERS

Internal Auditor's Office?

Question: How large should an institution be to justify the establishment of an internal auditor's office?—M.V., Ind.

ANSWER: Regardless of the size of the institution, internal auditing is essential. Internal audit and control is defined as "the system of procedures, accounting records, methods and details through which the work of each employee or group of employees is continuously checked and verified by the work of some other employee or group of employees, without duplication of effort and in the normal flow of operations."

In the larger college there generally is found an internal auditing staff whose function is to maintain a continuous check on the operations of the business office and all outlying departments conducting affairs of a business nature. Internal auditing is equally important and necessary in small institutions that cannot utilize a full-time auditing department or even a full-time internal auditor. In these instances some member of the business office staff assumes the rôle of internal auditor by conducting planned checks on the work of his associates and on the financial operations of outlying departments.

It is not possible to state definitively how large an institution must be to justify the establishment of a separate office for internal auditing. Moreover, there are other factors in addition to the size of the institution that must be taken into consideration. For example, the larger the auxiliary enterprise activity of the institution, the greater the need for a staff member to perform the functions of internal auditing. It is my opinion that in most institutions with an enrollment of around 2500 students, there is ample justification for the employment of a full-time internal auditor. Again, this answer is qualified to the extent that circumstances at the institution in question must be given full weight in reaching a decision as to whether to establish a separate in-

ternal auditor's office. — CLARENCE SCHEPS, *controller, Tulane University.*

Damage Deposits

Question: Is it worth while to require advance payment of damage deposit by students residing in college residence halls? —K.S., Ohio.

ANSWER: I doubt it. By the time you have set up a system to inventory the condition of furnishings and the room itself at the time of occupancy and have adopted accounting procedures to record damages assessed against the deposits and have written checks annually for remittance of the balance remaining in the deposits, if any, the expense accumulated probably will equal, or nearly so, the damages collected. In the meantime, you will have incurred the enmity of the customers who become irritated at assessment of these small charges.

An alternative is assessment and immediate collection of damages of some consequence, minor infractions being disregarded. Another alternative is to forget the whole thing except in instances of very serious damage involving considerable expense and in flagrant violation of dormitory regulations.

If the inquirer wishes to pursue the inquiry further, I will furnish a detailed description of a system devised for this purpose, but no longer in use. —BRUCE POLLOCK, *business manager, Carleton College.*

If you have a question on business or departmental administration that you would like to have answered, send your query to COLLEGE and UNIVERSITY BUSINESS, 919 North Michigan Avenue, Chicago 11, Ill. Questions will be forwarded to leaders in appropriate college and university fields for authoritative replies. Answers will be published in forthcoming issues. No answers will be handled through correspondence.

Institutional Painting

Question: Can we reduce costs on institutional painting by working with outside contractors or by maintaining our own paint crew?—B.N., N.Y.

ANSWER: If the institution has a paint shop that is a part of a general buildings and grounds department, the general opinion is that costs cannot be reduced by use of outside contracts. However, that statement must be qualified to meet local conditions regarding the labor market and the cost of supervision and inspection. Many institutions pay a monthly salary that is not up to the scale of the organized building trades rates; therefore, they have an advantage over the contractor who must pay the rate. Much of the overhead of the contractor can be avoided if the supervision of the paint shop is also a part of the general department, as only the foreman's time must be charged directly.

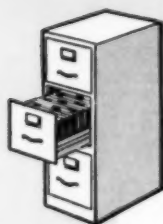
Plans and specifications must be made available and bids must be taken if contractors are allowed to compete for the work. An inspector must then be assigned to see that the work is done properly. If a paint crew is used, the work is merely assigned and inspection is a part of the shop foreman's duties.

The University of Wisconsin has found that it costs more to have the work done by contract than if it is done by university paint crews. As a result, painting is done by contract only in the extreme cases where the work load is so great that the crews will not be able to do the work in a reasonable time.

A housing unit of the university had a continuing contract for painting a large faculty housing unit but found the cost was so much greater than using buildings and grounds painters that the contract was not renewed. The department of buildings and grounds now furnishes painters as needed.—A. F. AHEARN, *superintendent of the department of buildings and grounds, University of Wisconsin.*



From the files
of Johnson's Wax
Floor Consultant
Service



The case of the floor in double trouble

*Floor headache at Illinois Club for Catholic Women cured
overnight when Johnson's Wax free Floor
Consultant Service offered remedy*

Mr. Snyder



"To look at it now, you'd never guess this floor takes a double beating," says Mrs. Cra Sweet, manager of the club dining room. "There's the heavy traffic of the luncheon period and afternoon parties, often followed by dinner dances.

"For six years this floor was my biggest headache. We had constant trouble with spotting and streaks, and it just wouldn't hold a shine.

"Several months ago I called Johnson's Chicago J-man, Mr. Jack Snyder.

That very night he worked with my men. With Johnson's Wax-Strip they cleaned off all our experimental waxes and applied Johnson's 'Spot Resistor' Brown Label.

"The next day our floor was simply beautiful. I no longer worry about spillage and spotting because Brown Label is so wonderfully water-resistant. All we do now is buff occasionally and we only re wax every three or four months. I am so grateful to Mr. Snyder and the Johnson people," says Mrs. Sweet.

Johnson's Wax products keep all rooms in this club shipshape. Should a problem arise, the J-man is always ready to help. Best part of the story is that all floor-care problems have vanished.

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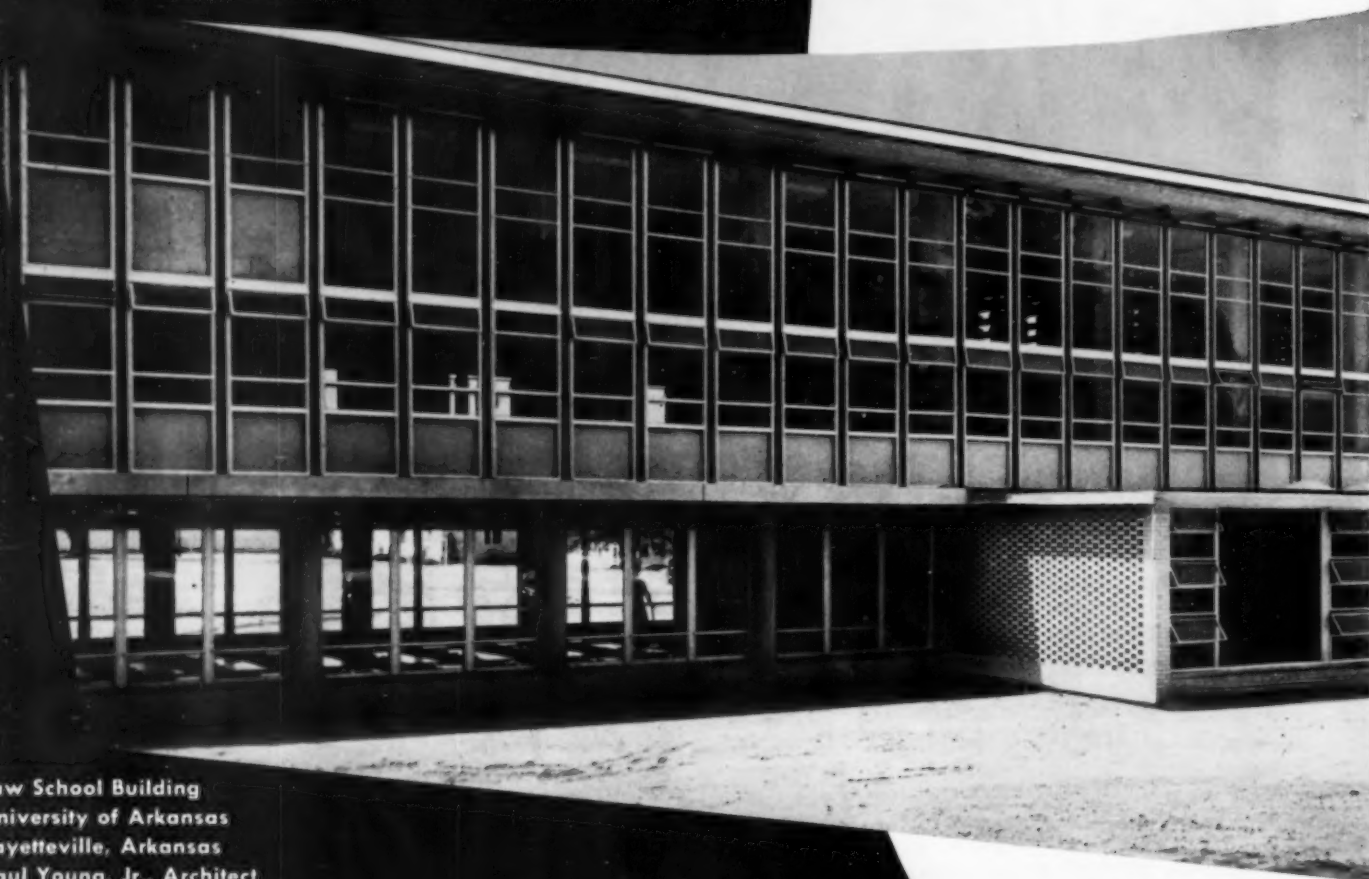
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Remember, there's a Johnson J-man in your area, too. He's a qualified "floor doctor" who can teach your maintenance men and demonstrate latest methods and newest equipment. Just call your local distributor of Johnson's Wax products and ask for the J-man. His services are free.

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*Geoffrey Baker and Bruno Finaro in "Windows in Modern Architecture"

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Topeka, Kansas

in 1955 food service award-winner

HERRICK

* STAINLESS STEEL REFRIGERATORS



Directly above is a close-up of HERRICK Model SP33B. There are three other HERRICK Stainless Steel Refrigerators in this kitchen.

Top picture is an exterior view of the new addition to The Menninger Foundation, showing the patio and main dining room. This HERRICK-equipped hospital won a First Award in this year's Institutions Magazine's Food Service Contest. Directly above is a general view of the kitchen. Architects for the new addition were Griest and Ekdahl, Topeka, Kansas. HERRICK units were supplied by Smith St. John Manufacturing Company, Kansas City, Missouri.

Dedicated to the improvement of mental health, The Menninger Foundation in Topeka, Kansas has grown from a private medical partnership to a professional organization employing some 400 persons. Its staff members hold important positions in national and international psychiatric organizations. • The award-winning kitchen, located in the hospital's new wing, is equipped with HERRICK Stainless Steel Refrigerators. When it comes to keeping foods fresh and flavorful, nothing equals a thoroughly-dependable HERRICK. You, too, will find HERRICK Refrigerators unmatched for complete food conditioning at lowest cost per-year-of-service. Write for nearest HERRICK supplier.

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Owens-Illinois' NEW SOLAR SELECTING Glass Block cooler in hot weather

Owens-Illinois new solar selecting Glass Block No. 80-F has a lower surface temperature during hot weather. It acts like a mirror reflecting a good portion of the direct hot rays from the sun, and at the same time transmits cool light reflected from the ground.



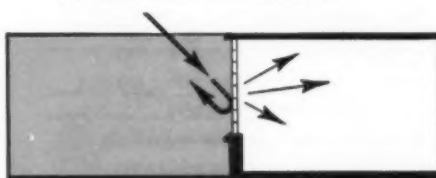
Because of its light-selecting principles this new block has a much lower surface brightness than other glass block. Maximum surface brightness as measured at the Daylighting Laboratory is less than 1400 foot-lamberts.



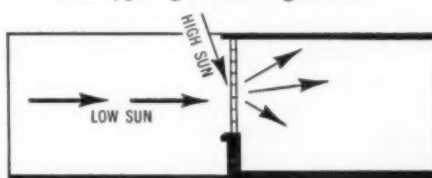
Thermocouples applied to the face of the 80-F block during hot weather (outside temperature 90°) showed that the roomside surface temperature was 14 degrees less than a conventional type light-directing block.



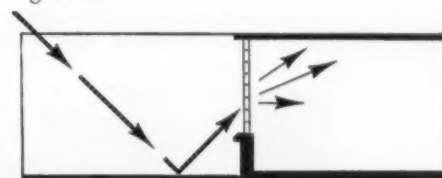
A similar test using a portable pyrometer confirmed the findings of the test using thermocouples by showing the same 14 degrees lower temperature on the roomside surface of the 80-F glass block.



Rejects hot summer sun—This diagram shows how the 80-F block reflects a major portion of the light from the sun at the critical 45° angle thus reducing brightness and solar heat transmission during hot weather.



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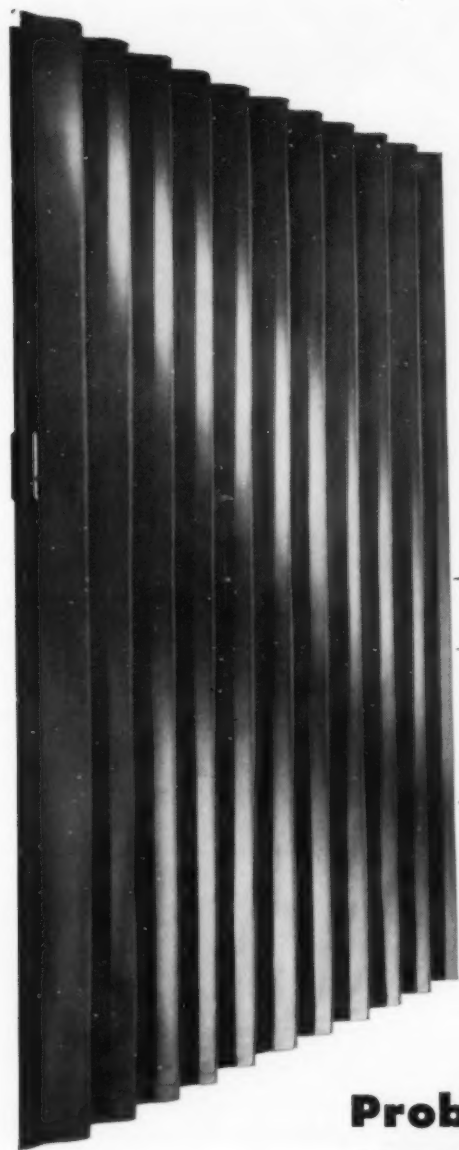
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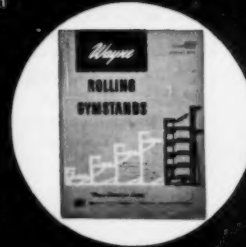
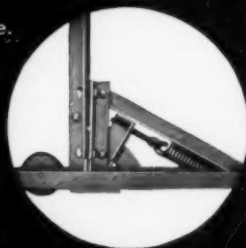
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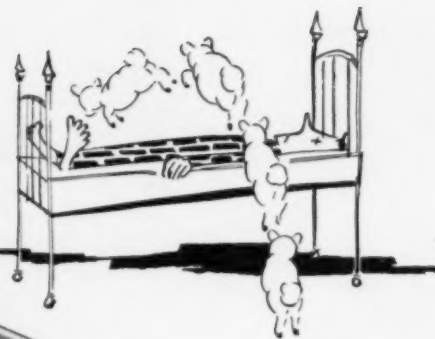


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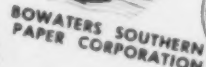
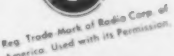
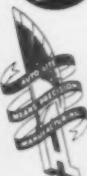
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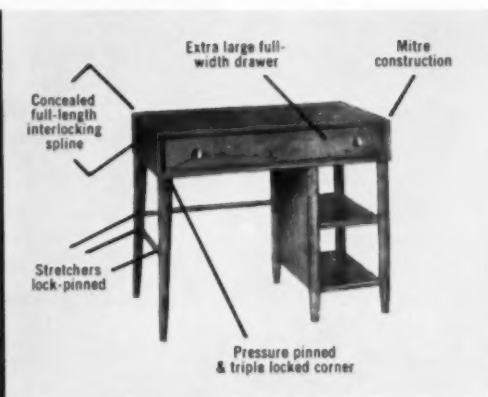
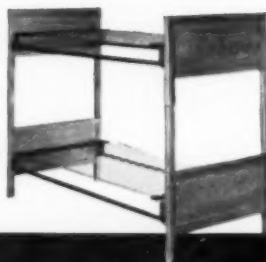
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Rôle of the Junior College in Higher Education

JAMES W. REYNOLDS

*Editor, Junior College Journal
American Association of Junior Colleges, Austin, Tex.*



THE DEPRESSION OF THE THIRTIES WAS RESPONSIBLE for introducing certain terms in the vocabulary of the everyday man. Among these were "economy of plenty" and "economy of scarcity." These terms are singularly appropriate in assessing the rôle of the junior college in higher education.

In times when there was an economy of scarcity insofar as available students were concerned, there was keen competition among the various types of higher educational institutions. Since the junior college represented one type, it was involved in this competition.

Currently, higher education has entered an economy of plenty in regard to students. Each year reveals an increased collegiate enrollment which has not yet felt the results of the tremendous increase in the birth rate which began in the early Forties and has not yet abated. Competition for students is diminishing if not disappearing. The junior college will be influenced by this phenomenon of decreasing competition along with all types of higher educational institutions.

The story, however, does not stop with this shift in student economies. Students do not pay the full cost of their education; thus vastly increased enrollments create a sharp upswing in costs. To meet this upswing, college leaders are forced either to restrict enrollments and thus prevent the upswing, or procure progressively increased funds from the traditional sources of college support. Since the reservoir from which this support is drawn is not unlimited, competition among the colleges increases as the level of available funds in the reservoir decreases.

This competition for financial support is not without its beneficial aspect. The competition, in essence, creates a buyers' market for the taxpayer and the donor. The sellers—the institutions of higher education—must present nothing but excellent products—educational programs. Satisfaction with being just as good as the next institution will no longer be good enough.

Where does the junior college fit into this picture? The following suggestions are intended to answer this question.

1. Through lower costs in the first two years of

college education, the junior college will contribute to larger enrollments by overcoming economic barriers for many students. However, the per capita cost for education in the upper division in college is higher than for the lower division; thus junior colleges will lead to a swelling of enrollments in four-year colleges at the level at which costs are greater. This means a necessity for educating the public to the fact that costs per student are not uniform at all levels.

2. Junior colleges will relieve overcrowding in other institutions. Many students will profit just as much, if not more, from only two years of college education. For them, the junior college is preferable to spending one or two years in a college whose entire program is geared to four years. Furthermore, in such disciplines as engineering, relief afforded by junior colleges in reducing lower division enrollments permits doing a better job with students in the upper division.

3. Increased enrollments in junior colleges as a means of relieving overcrowding in four-year colleges may speed up a reorganization of higher education. This would shift the major break in college education from the period between the senior year in high school and the freshman year in college to the period between the sophomore and junior years in college.

4. Junior colleges should be able to perform a highly desirable salvage function for students experiencing difficulties in their programs of post-high school education. This will involve not only students with native ability but inadequate preparation, but students whose educational goals may not be consistent with their aptitudes and abilities. Many students not fitted to succeed in the rigorous discipline of engineering, for example, may achieve success and satisfaction as technicians.

5. The junior college is admirably fitted to provide a program of community service.

6. The junior college, through its technical-vocational program, will provide a program consistent with the need for technically educated workers.

There is an urgent need for rethinking many of the current theories of higher education. In this analysis, the junior college must be accorded a place.

LOOKING FORWARD

A United Front

THE SETTING WAS IDYLIC; THE WEATHER WAS ideal; convention delegates radiated cordiality. Such was the scene as representatives from the United States, Canada and Hawaii met in Estes Park, Colo., for the first National Assembly of the Federation of College and University Business Officers Associations.

Chief value of the meeting was the opportunity of college business executives to meet their contemporaries from all points of the compass and all types of institutions. It was not expected that final solutions would be found for the administrative problems that vexed them. Progress was made in the direction of understanding the other fellow's point of view, however.

This first meeting demonstrated that five regional business officer groups can come together without coming to blows. There were a few examples of provincial jealousy exhibited, but for the most part it was an exhilarating demonstration of cooperation at a professional level.

The issue between private and public higher education in solving increasing enrollment pressures was dramatized effectively at the opening session by President Laurence M. Gould of Carleton College and President Meredith Wilson of the University of Oregon. Convention delegates were unanimous in their praise of the presentation of both speakers.

Appropriate recognition of Lloyd Morey's more than four decades of service in higher education administration, first as comptroller and later as president of the University of Illinois, represented the emotional peak of the assembly program during its two-day meeting. The tribute was a national one, in which regional differences were forgotten as Lloyd and his wife, Edna, received the affectionate best wishes of the more than 400 delegates present.

A well planned afternoon session on investments was favorably received by convention delegates, as were the social hour and Colorado chuck wagon supper in the evening.

Some of the bloom faded on Tuesday. This was due in part to the illness of one speaker who was unable to appear in person. Dr. Arthur S. Adams, president of the American Council on Education, got the program back on the rails as the luncheon speaker who com-

mended the delegates for presenting, at long last, a united front.

Somehow, in the afternoon, the presentation on cost studies never quite came into focus. There was obviously too much to digest or summarize in one sitting. This was ironic; the cost studies represent one of the most significant advances made by the federation during its five-year existence.

The concluding address at the final banquet by Dr. Alvin C. Eurich of the Fund for the Advancement of Education confused some delegates and irritated others. It was difficult to find those who would agree with the speaker's assertion that higher education should prepare annual balance sheets that show a profit and loss statement comparable to the form prepared by business or industrial corporations. The speaker was on more acceptable ground when he criticized higher education for not interpreting its needs and functions more effectively in its financial reports.

Delegates were in agreement that the first assembly of the federation was a success. There were many who felt that the infrequency of national assembly meetings would be a handicap in achieving concerted action on issues of mutual concern, however.

It would seem desirable to consider the scheduling of a national assembly every third year, with the regional associations holding their annual meetings in other years and then waiving the holding of such meetings during assembly years—or holding them in addition to the assembly session. The assembly could be assigned to different geographical areas of the country each time it is held. Three such meetings in a decade would not be too many; it's about time the college business managers' associations came of age, and shook off the hobbles of provincialism.

To the first president of the federation, Jamie R. Anthony, controller of Georgia Institute of Technology, belongs the honor of bringing it into being; to the second, Irwin ("Ike") K. French, business manager of Wellesley College, the credit of establishing the federation as a going concern, recognized by education, government and business; to the new president, Nelson A. Wahlstrom, controller of the University of Washington, the hope of greater service to all in higher education. To all of them—heartiest congratulations!

AMID THE UNCERTAINTIES ABOUT the "landslide" of students that is coming, there is a new and exciting fact which didn't exist a decade ago but which today increases efficiency, improves economy, and enriches performance.

It is regional education.

It is established in the South, growing in the West, being born in New England and the Midwest. For every \$1 it costs, it saves \$6. It "stretches" educational facilities to previously undreamed-of lengths. Its backers have disproved every charge its opponents have fearfully leveled.

The story began in 1948, when the southern states ratified an interstate compact to permit the pooling of certain scarce educational facilities so that facilities located anywhere in the region could serve qualified students everywhere in the region. The Southern Regional Education Board, first of its kind, was created and put in charge.

By the fall of 1954, about 1200 southern "regional students" were studying medicine, dentistry, veterinary medicine, and social work in out-of-state professional schools somewhere in the South. The students paid only in-state tuition and fees. Their states paid an additional fixed fee to the receiving institutions. States without professional schools acquired a "school-away-from-home," and were saved the expense of building and staffing such a school themselves.

The S.R.E.B. also negotiated "memorandums of agreement" in a dozen areas ranging from petroleum sciences to forestry, pledging the participating institutions to cooperative planning in teaching and research. While less dramatic than the student placement program, this phase may turn out to be the most significant feature of regional education.

These approaches to regional education meant everyone saved money. No one lost any independence. Research programs were accelerated. The economy of the region was promoted. All this was done by stimulating, not stifling, local initiative. Free consent, not compulsion, has been the motive power.

Such progress could not be ignored, and soon the governors of the 11 western states and two territories sponsored a similar interstate compact for the West. In 1953 the Western Interstate Commission for Higher Education was formally organized and offices estab-

lished; nine states have now entered the compact. The legislatures of California, Nevada and Alaska are considering bills ratifying the agreement.

The western governors copied the S.R.E.B. pattern, but not slavishly. The Southern compact permits establishment of new regional schools; the Western compact makes no such provision. The Southern compact singles out no particular fields for special mention, but the Western agreement specifically gives dentistry, medicine, public health, and veterinary medicine priority attention.

In two years, W.I.C.H.E. has arranged for out-of-state professional training for 163 students. In every member state, increased appropriations are being considered to enlarge present programs or initiate new ones.

(In New England, a similar compact has been drafted and is before the legislatures. In the Midwest, plans are being considered for a similar arrangement.)

HOW REGIONAL EDUCATION WORKS

Just how does regional cooperation work? What are its benefits? What can be expected of it?

Contract program. Contracts are drawn (in the South, as an example) between the S.R.E.B. and institutions, and between S.R.E.B. and the states. The board is an intermediary through which the states buy space for their students in the professional schools of neighboring states. The receiving

institution maintains complete control over the admission procedure, and regional students meet the same admission requirements all other students must meet.

The sending state pays the receiving institution a fixed sum (standard for the region) for the student—\$1500 in dentistry and medicine, \$1000 in veterinary medicine, \$750 for social work in the Southern compact. (In the West, the figures are \$2000 for medicine, \$1600 for dentistry, \$1200 for veterinary medicine.) The legislatures appropriate the money to the board, which relays payments to the institution.

It all adds up to a marriage of convenience—for everyone concerned. Students get better training; professional schools get a needed financial boost; sending states get a bargain in meeting their educational obligations.

Memorandums of agreement. These are formal commitments by heads of participating institutions to work together in organizing their offerings in specific fields.

The S.R.E.B. assumption, amply justified by results, is that if deans of like schools meet together for a period of time to discuss common problems they will contrive methods by which programs can be coordinated, deficiencies met, and the offerings of the region upgraded.

As an example, the memorandum in forestry permits a cooperative program of research, education and serv-

You Can't Go Wrong With Regionalism

HAROLD L. ENARSON

Executive Director

Western Interstate Commission for Higher Education



Above: The Southern Regional Education Board's seminar on graduate education in nursing held its ninth meeting May 16 to 20 in Atlanta, Ga. Seminar participants are shown with the birthday cake which marked the first anniversary of the program of graduate education in nursing. Emory and Vanderbilt universities, and the universities of Alabama, Maryland, North Carolina, Texas participate in the program.



Below: Cary Hall, the main building of the School of Veterinary Medicine at Alabama Polytechnic Institute, one of the original participants in the S.R.E.B.'s contract programs. The school takes quotas of students from Florida, Mississippi, Tennessee and Kentucky, none of which has veterinary schools.

ice. Forestry schools in the South now develop specialties that complement rather than duplicate; research is pointed more directly to the scientific and personnel needs of industry and government; better use is made of industrial and government laboratories, saving the institutions the cost of expensive duplicating facilities. Legislators feel they can strengthen their forestry schools with confidence, since programs emerging from regional appraisals merit the strongest possible support.

In one sense, the memorandums of agreement are weak reeds. They rely upon free consent; any school may withdraw at any time. They cannot force economies or legally prevent even the most flagrant, costly and needless duplication. But they are much more than pious expressions of hope that collapse in the face of the first tough problem.

For regional committees have at

their command the powerful compulsion of facts. They can inquire, suggest, report. Their findings may be extremely valuable to the university president who opposes the building of programs just like those of neighboring institutions or who wishes to support a dean or department head in extending an offering in areas where expansion is justified.

The regional committees become miniature planning bodies. They quickly face the same problems that colleges and universities in general meet when trying to prepare for the future. Their high value is in fact-finding, of which all too little still is done by individual institutions.

Regional studies. These may embrace a single field, a group of fields, or the needs of higher education as a whole.

The S.R.E.B. has just completed an "educational load study" that makes student population projections for

each southern state. The W.I.C.H.E., with the cooperation of the U.S. Public Health Service and the help of the Kellogg Foundation, has under way a unique regional survey of dental manpower requirements. There is a wide range of studies beyond the resources of single institutions yet important to each in planning.

In making these regional studies and creating specific programs of regional cooperation, both S.R.E.B. and W.I.C.H.E. provide a convenient bridge to the federal government and to the foundations.

For example, the National Institute of Mental Health provided funds to the S.R.E.B. to assess the needs and resources of the South in psychiatry, clinical psychology, psychiatric nursing, and psychiatric social work—the four fields in which training must be accelerated if an all-out attack on mental health problems is to be made. (Plans for a similar survey, also with

Right: Faculty of the second Southern Regional graduate summer session in statistics, held June 21 to July 29, at the University of Florida at Gainesville. Ninety-two students from the United States and foreign countries enrolled for advanced work in various phases of statistics at this year's session.



federal funds, are well advanced in the W.I.C.H.E. area.)

Foundations are equally anxious that their grants be used to the greatest advantage. Some years ago, the Carnegie Foundation gave grants to southern and southwestern institutions for research in Latin-American history, with certain schools selected as centers for study in designated areas. The result has been programs of genuine excellence in all fields, not mediocre and competing programs.

S.R.E.B. helped bring a large grant from the W. K. Kellogg Foundation to a number of southern universities for a cooperative training and research program in nursing. Thus, funds are being stretched to the limit.

FOUR MAIN OBSTACLES

There are four main obstacles to regional education.

1. *The university ideal.* The goal of any university is to embrace all knowledge. Budget restrictions may cloud the dream but the ideal is full service in all departments of learning. Moreover, the university traditionally sees itself as an independent entity, not as part of some state, regional or sectional design.

2. *Academic rivalry.* The usual (and normal) impulse of faculty and administrators is to act in the light of the interest, preoccupations and aspirations of their own institutions. Institutional pride and self-sufficiency go hand in hand, even to the point of needless duplication of course offerings and shameless competition in ways that do damage to the quality of the educational product.

3. *Local roots, local publics.* Universities are not nomads. They are rooted in time and place, have their own histories, are the products of

particular sets of circumstances, evolve in response to explicit needs and pressures. They are responsive to various publics whose expectations, values, aspirations must be taken into account lest appropriations or budgets be threatened and hostility generated.

But there are no regional publics. Regional programs must make their way in the face of publics which, if not actually hostile, are likely to be either indifferent or neutral. Plainly, regional cooperation can grow only if it seems not to threaten the interest of local publics.

4. *The academic cafeteria.* There are few strong internal checks against proliferation of course offerings. The fact that a specialized offering is available at a neighboring institution is as likely to be an argument for introducing the course as for avoiding it at one's own school. As Robert Maynard Hutchins reminds us, "the academic cafeteria is rich in variety but the fare is not uniformly good, and some of it is downright bad."

COUNTERBALANCING FACTORS

If the story were one only of obstacles, regional cooperation in higher education could be dismissed as futile. Happily, there are counterbalancing factors.

1. *The impulse to efficiency.* We dislike waste and won't live with it forever. The country schoolhouse has given way to the consolidated school. Inefficient units of local government are combined.

A new generation of management talent has moved into the top echelons of university management. The new president is cost-conscious. He doesn't enjoy haphazard growth or dilution of quality. He is proving that higher education can be efficiently run with-

out disturbing essential freedoms or damaging the central purposes of higher education.

This impulse to efficiency leads to looking at education in the broad perspective. It leads to the search for regional answers to institutional and state problems.

2. *The new magnitudes in education.* The landslide of students will bring a rockslide of costs. Professional education is particularly expensive.

New cost magnitudes compel painful analysis: where to excel, what to leave to others. And should educators weaken, they will get swift support. For legislatures today are looking with quickened interest upon the costs of higher education.

3. *Availability of new machinery of government.* Cooperation doesn't just happen. It takes more than desire and will.

That's where the regional compact organization comes in—to crystallize ideas, bring projects to a boil, propose specific paths to cooperation. Their business is to be a source of initiative, of creative activity, to point out problems and invent solutions where individual institutions may be helpless for fear of exciting jealousy or antagonism or misunderstanding.

Such is regional education, powerful ally alike to the administrator interested in high quality without wasteful duplication, the legislator determined to get greatest value for ever larger appropriations, the student seeking a profession, the profession seeking a practitioner, the region seeking all of these.

It is a sound proposition, tested and proved. It is disquieting only to those who cling to "education as usual" in the face of a swell-tide of educational perplexities.



Purchasing Athletic Equipment

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"SPECTACULAR! FABULOUS! IT'S A championship shoe if I ever saw one! All the other schools are using it. Let's buy some!"

So goes the conversation in athletic departments throughout the land, thus opening the curtain on one of the most interesting and challenging areas of present-day college business administration.

PURCHASING PROGRAM VARIES

The management of a purchasing program for intercollegiate athletics will vary in many ways with the institution concerned. The reasons for this are legion. However, the governing factor generally depends upon the system of internal checks and controls established by the institution for the purchase of all materials and supplies, athletic and otherwise.

For purposes of this discussion it is to be assumed that the purchase of equipment and supplies for the athletic department is managed through the general university purchasing department or the purchasing agent of the Associated Students group, if this is applicable.

The purchasing procedure outlined here cannot be presumed to be the very best way to acquire materials and supplies for the athletic department; it is safe to submit, however, that it is a good way, and that it has proved itself capable of fulfilling the requisites of scientific management.

It would be unintelligent to attempt to outline any procedure for the purchase of athletic equipment and sup-

plies without giving initial recognition to purchasing's two vital corollaries: inventory level and budgetary control. From a philosophical standpoint budgetary limitations on the amount of money that may be afforded a given sport, in the beginning, should be based not upon the limits of desire but upon a modicum of need. This is a sound business approach as far as the athletic director is concerned, and it reflects a reasonable attitude where coaches and athletes are involved.

In reaching these figures current inventory level of equipment and supply in the sport concerned is a concomitant circumstance. What is in stock, the amount of supply used in this sport on an annual and normal basis, and the foreseeable tendency in market prices may be concluded as being the factors of supreme influence in establishing a realistic and functional budget.

Next, it is appropriate to discuss all these facts with the head coach of the sport concerned. It is important for him to be reminded of how much supply there is in stock for his sport, and what the normal annual consumption of materials is in his area. Further, it is a matter of organized fiscal planning to reconcile this tentative budget with whatever operational plans the coach may be entertaining for his sport in the next year. Following the compilation of these figures and the mutual understanding of their full implication by the athletic director and the head coach concerned, this budget

is submitted to the proper university authority for approval. When it has received official sanction, the actual process of selection and purchase of supplies may begin.

First consideration should be given to "fill-in" purchasing of identical items. In many instances a coach will be quite satisfied with the items of equipment represented on his shelves by the various manufacturers. Essentially, he does not feel that, in view of what is available on the market, he wishes to make any over-all changes in the type of items he is presently using. In this case the purchasing function is simple. The athletic director completes a standard requisition form showing the quantities of the items to be replaced and defining carefully full specifications, including brand names, wherever he wishes them to apply. The quantities here are to be consistent with those arrived at in the planning phases of the construction of the budget for this sport. This requisition is drawn on the account set up for this sport and is forwarded to the university purchasing agent for final development.

PROCEDURE HIGHLY SELECTIVE

In the event that one or more new items of equipment are to be purchased for a complete item replacement, the purchasing procedure becomes highly selective. When the athletic director and the head coach determine the various items to be acquired on this basis, the former officer notifies the purchasing agent

**Unless procedures are sound,
this can be a touchy subject—
buying goods for athletics**



by means of memorandum that his department wishes to buy these items in the quantities indicated. He also establishes the dates he would like to have the various factory representatives present their samples to him in his office. It is the factory representatives and not individual dealers who are requested to make these presentations by the purchasing agent.

REQUEST PRESENTATIONS

The athletic director and the purchasing agent may jointly, or in part, request all manufacturing lines represented in the area to make a presentation. This allows all available types of equipment to be shown, and involves only one man discussing each line. Such procedure obviates the necessity of interviewing many dealers, a great number of whom would have identical lines to show.

The athletic director sets up separate dates for the showing of these lines in his office, a different day, perhaps, for each manufacturer. At each of these showings the head trainer and the head equipment manager should be available in the director's office for assisting in the review and for question and comment. After all presentations have been made a date is set with the coach or coaches concerned for a critical review and analysis of all samples submitted.

The sample showroom is set up in as interesting a manner as possible, with attractive arrangements of all the items to be shown. The athletic director discusses each of the items

the sport has been using, and then he critically and impartially reviews all the important points to be shown on every sample item in each line represented.

After this has been done, the coach or coaches, the head equipment manager, the head trainer, the team physician, and the purchasing agent, all of whom have been invited by the athletic director to be present at this meeting, are given an opportunity to discuss whichever items they wish from the point of view of their own responsibilities. After all discussion is completed the head coach makes his choice of items in the particular line he wishes, and his selection is concluded by his stating substantially why he picked the items he did over all others shown.

This sample presentation room is left intact for a week so that the coach may further review the lines and reconsider his selections, if he wishes. After this period the athletic director completes the necessary requisitions showing the quantities of each item as represented on the budget plan, and the accurate specifications determined at the time of the equipment showing including brand names, wherever he wishes them to apply. These are forwarded to the purchasing agent for further processing.

When the purchasing agent receives these requests for purchase from the athletic director, his first reference is to the list of vendors that has been established in his office for the supply of athletic equipment. Each vendor

on this list is sent a request for quotation on all items represented in the various requisitions. Quotations are received on a "sealed bid" basis with specified deadline, and each vendor is privileged to bid on all, or part, as he wishes.

Vendors earn a place on this panel by virtue of the confidence and respect the purchasing agent has in them. Are their establishments capable of making factory-drop shipments as well as out-of-stock delivery? Do they make original delivery accurately and on specific dates requested? Does the university have confidence in their merchandising manner? Do they call often at the offices of the athletic director and the purchasing agent? Do they visit with the training room to check on the progress of equipment they have previously sold the university? How quickly and effectively do they rectify errors in shipment, and how solicitous are they in helping the university and the athletic department manage its emergency needs?

MUST QUALIFY FOR VENDORS' LIST

If a dealer, in the qualified opinion of the purchasing agent, is rated as superior in all of these areas—not just in one or two but in all of them—then he merits a place on the vendors' list. In order to retain this position he continuously must measure up in each of these considerations. Not all vendors in a given area necessarily will appear on the vendor panel.

In arriving at these conclusions, and while he is not obligated, the

purchasing agent may confer frequently with the athletic director. When the quotations are returned from the various vendors, the purchasing agent, exercising sole responsibility and authority, awards the purchase orders on the basis of where he may achieve the wisest and most economical purchase.

AWARDS MUST BE FAIR

If it should develop that all factors influencing a prospective purchase are equal, *i.e.* price and quality, and where several vendors are concerned, then a policy is followed that will allow for fair or equal award in consideration of all who submitted quotations. All of the requirements as respects servicing the account automatically will be met regardless of which vendor receives the order.

When these orders are completed and shipped to the university they are received at a general university receiving office. Here the orders are opened and the items are counted and checked for specification against a copy of the purchase order. If the shipment is not in order, the purchasing agent is advised by the receiving department, and the dealer is called in to rectify the matter before the university delivery truck carries the shipment to the equipment manager of the athletic department. Thus, when the shipment is delivered to the equipment room it is complete and in order and ready for storage and inventory entry.

It is important to distinguish two principles in the "fill-in" and the replacement purchasing procedures as outlined here. First, the coach of the sport concerned is not obligated to interview a large number of sporting goods dealers. He may give audience to many of them, but he is not necessarily required to do so in solving his purchasing problems. If, in his course of visiting with dealers, he becomes familiar with new or revolutionary items of equipment, he may refer these to the athletic director with the request that such appear in the general showing later on.

This procedure frees the coach from a certain amount of administrative detail and affords him corresponding latitude to handle other matters. It also defines the fact that the coach chooses exactly the items he wishes to have, and he does so in a manner that is consistent with a budgetary program, and with the protective sup-

port of advice and opinion from his closest and most responsible professional associates.

By way of suggestion, a word should be spoken in regard to the maintenance of equipment and supplies and the efficient disposal of items to be surveyed through fair wear and tear. Mention of these administrative areas is made only insofar as they may be regarded as important and allied phases of the purchasing procedure. Careful management here will, of course, materially influence inventory levels and the character of the annual budgetary forecast.

Just as standardization effects economies in other areas of business, so does it result in savings in the pur-



chase of athletic equipment. It is mentioned here as an inherent principle of effective purchasing together with the attendant rule of making large-scale purchases with definite periodicity, not in excess of two times a year.

STANDARDIZE FOR ECONOMY

Standardization involves, for example, purchasing all one type of baseball uniform initially; then, in subsequent years, buying only "re-fills" until such time as the uniform becomes obsolete, or it is considered advisable to change over completely to another type. The practice of buying different types of baseball uniforms each year, so to speak, is not consistent with sound purchasing principles and leads into a weird maze of waste and useless expenditure.

In the long perspective it has proved to be a money saving technic to purchase all foreseeable requirements at definite times of the year. For example, all items to be used in the fall

sports program should have purchase orders placed for them in March of each year, and all items to be used in the spring program should have their orders placed in July of each year. This takes full advantage of market prices as they may be at those times and provides certain advantages in quantity buying. It also allows the optimum time for manufacture and delivery. The only orders that should find need to be placed in the intervening months would be those of an emergency nature or those erroneously omitted from original requests.

SOME ITEMS SUBJECT TO TESTING

It is important to mention the existence of a limited testing program to accompany the purchasing procedure. All items of athletic goods are not necessarily subject to testing before buying, but some are. In purchasing bath towels, for example, it is important to make a test trial of the several sample types available before the time of the general showing of samples to coaches and other personnel. The towels should be measured and weighed, and then put to general use for a week or so. After this time they should be measured again and weighed to determine the amount of shrinkage, and the loss of filler or body in the towel. This type of testing program allows the university to maintain a consistent and high level of quality in its purchase of athletic supplies.

This, then, is a tried and recommended procedure for the purchase of equipment and supplies for the intercollegiate athletic program. It embodies budgetary planning and inventory controls; the technic of "fill-in" buying as distinguished from replacement purchasing; fair use of the so-called "bid plan"; the efficient use of personnel involved in the purchasing procedure; the advantages of quantity and quality buying, and the technic of standardization.

The athletic director is the key figure as he works with the purchasing agent in planning, organizing, coordinating and controlling the entire process of acquiring equipment and supplies for the athletic department. Liaison between the athletic director and the purchasing agent is important to the successful administration of such a program. This is scientific management, and it is one answer to a problem long in need of a reasonable and definite solution.

If Unit Cost Calculations Are to Be Valid

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THE DEVELOPMENT OF UNIT COSTS in the accounting or management procedures of educational institutions has been a subject of much discussion and no little controversy for a generation. But there never ceases to be a new voice to be heard, if for no better purpose than to add to the din.

Currently there are three compelling reasons why as valid a unit cost as it is possible for an institution to work out is important administratively. The first reason is "the impending tidal wave of students." It is more vital than ever before for educational administrators to know as accurately as possible how much it will cost to add one student or a hundred students or a thousand students to the present enrollment. They must be aware of the costs incurred in the operation of present facilities and of the additional costs of "stretching" them. They must have some idea of how the costs will be influenced by the addition of new facilities when present ones are outgrown because of greatly expanded enrollments.

With the growing interest on the part of corporations in supporting the smaller liberal arts colleges, particularly, it is equally important that the colleges be able to furnish a valid statement of what it costs them to provide instruction to a student over and above the amount the student pays. More and more corporation plans of giving to the liberal arts colleges and other institutions involve payment of an increment to cover costs over and above student payments, and as time goes on it will be necessary for the institutions to justify the amounts of these differentials or to provide adequate figures to substantiate different amounts of increment.

Third, if the trend toward asking parents who are able to do so to pay as gifts the difference between stated tuition charges and actual costs is to make any progress it is again impor-

tant that the colleges be able to establish the amount of this difference with reasonable accuracy.

Various "units" can be used as the basis for establishment of a unit cost. Most frequently used are the per-capita-student unit, the student-credit-hour unit, the student-semester-hour unit, and the student-clock-hour. There are a host of others. Of these the only one of interest for use outside of internal management is the per-capita-student unit. This can be defined as how much it costs the institution to provide one regular full-time student with one academic year of instruction at a given level. This unit cost will vary with the level of instruction, but equally valid costs can be established for the various levels. This unit has the advantage of being universally understandable by corporation executives, parents and others unfamiliar with the intricacies of college accounting. It is the unit with which this discussion will be concerned.

METHODS NOT NEW

Methods for determining such costs have long been established. The book, "Financial Reports for Colleges and Universities," prepared by the National Committee on Standard Reports for Institutions of Higher Education and published some 20 years ago, contains not only necessary information concerning accounting methods but also, in the appendix, detailed instructions for making allocations of overhead and general expense. With the refinements learned from the experiences with the armed forces during World War II, with the Veterans Administration, and from the contributions and writings of the past few years, these methods are valid today.

There has not been anything substantially lacking in the methods of determining costs. The unsatisfactory results have been due to the use of incomplete data or to the careless

application of data or to both. In any event, until a better and more precise statement of methods and procedures is produced, accountants and administrators will do well to use this manual as the basis of their procedures to determine their unit cost figures.

In determining unit costs it is essential to attain as high a measure of precision in account classification and titles as possible and to establish a high degree of accuracy with respect to the distribution of actual items of expenditure into the respective accounts. Clumsy classifications, jumbled distributions, and careless allocations will greatly affect the outcome of the calculations. A not uncommon inaccurate practice that will reflect itself in unit cost results is charging of items properly classified as expense direct to income accounts or to special purpose balances, thus understating total expense and total income. This is an example of the kind of practice that must be avoided if unit cost calculations are to be valid.

It is equally important that precision and accuracy prevail in establishing the number of units (students) for which the cost is to be determined. It long has been agreed that no two students are exactly alike, that no two students take the same courses. Granted, but for determining costs certain frameworks for levels of instruction have to be established and the methods of cost calculation applied within them. From the standpoint of the costs of turning them out as units, it makes no significant difference that one student is graduated magna cum laude while his neighbor squeezes through mirabile dictu. The essential thing is to see that a method of count, once established, is followed with precision and accuracy so that both students get properly counted.

In spite of the existence of established procedures and the improvements in accounting practices over the

last two decades, unit costs seem to be as frequently legerdemain by which administrators fool themselves as they are tools by which better results are obtained. The reasons for this seem to fall roughly into four categories.

In the first place, too much is expected of unit costs. Those who are not aware of the shortcomings of such calculations are disappointed because they are not infallible; those who are cognizant of the possible vagaries involved are inclined to discount them too much. Overlooked seems to be the fact that almost any cost accounting involves judgments and choices. The essential to validity in this respect is to search to discover a standard of judgment that can be agreed upon as sound. Allocations always are arbitrary and dependent upon the judgment of the person making them. Moreover, as has been pointed out, all cost accounting is dependent for its accuracy on the accuracy of the basic direct data. It must be realized that in general any determination of cost is an approximation.

KEEP METHOD SIMPLE

Next, in many instances the methods of making cost distributions have been too complicated. It is essential to keep the method as simple as possible in consideration of (a) the size of the institution; (b) the number of allocations that are to be made, and (c) the use to which the results of the cost accounting procedures are to be put. In a small institution virtually no allocations have to be made except those to the auxiliary activities. These, let it be said, are of vital importance to allocate since no part of the cost of any auxiliary activity should creep into instructional unit cost. In a very large institution it may be necessary to make a great many allocations of this sort in order to arrive at the fundamental cost of instruction at various levels, and this will require a much more comprehensive procedure.

Third, it is essential to include in the primary data all costs that are justifiably a part of the operating costs of the institution in both instructional and auxiliary departments whether or not they are represented by cash expenditures. All expenses required to raise funds that are used for current operations of the instructional division or divisions of the institution should be included as instructional costs. It is, for example, not at all reasonable to include the cost of collecting en-

dowment investment income and then to exclude the cost of soliciting regular annual gifts from the alumni (income on "living endowment"), which cost is represented by an expenditure in most institutions today.

These costs, however, should not be confused with the costs of raising additional endowment funds or the cost of raising capital funds for plant. Since these are not regular and recurring expenditures and they make no contribution to current operation of the instructional divisions, they have no place in the structure of the figure with which this discussion is concerned. Cost of providing temporary operating funds (interest) also should be included. It is equally essential that costs that are deferred, but that must be met ultimately, be provided for in the unit cost calculations.

If a valid unit cost figure or a valid differential between unit cost of instruction and student payments is to be established some provision for deferred maintenance, for example, must be included as a cost. The fact is that for many institutions in the present depleted state of finances unit cost calculations made from records of current expenditures can be virtually meaningless for long-range management purposes, because many functions are allowed only marginal amounts of expenditure and the costs of some are entirely deferred.

The inclusion of such items of cost in a current determination of a unit cost is a different concept from that of establishing a depreciation reserve. It is, in fact, almost the opposite, because it is current recognition of the fact that money ordinarily expected to be spent in regular annual maintenance and to be charged into current operations in lieu of depreciation charges is not being spent. To fail to account for either the current expenditure or the deferred item is to understate the real costs incurred.

Finally, related closely to the determination of costs is the determination of the differential between what the student pays for instruction and what it costs the institution to provide him instruction for an academic year. Here it is important to give the student credit for any overpayment that he makes for the auxiliary services which, although necessary to his welfare, are not a part of the cost of instructing him. To the degree that auxiliary activities show a gain which is not set up as a reserve against later contin-

gencies or losses but which ultimately is taken into general income, the gain should be credited against the cost of instruction or against what the student pays for it. A simple example will suffice to illustrate this principle.

Suppose in a college with 1000 students "tuition" is \$600 per year and the price of room and board combined is \$600 per year and all of the costs for providing room and board are carefully allocated to these enterprises. Assume now that the auxiliary enterprises of providing room and board show a combined gain at year-end of a total of \$20,000, which is taken into the general income of the college. This represents an overpayment for these services of \$20 per student and therefore the payment by the student to be credited against the unit cost of instruction in arriving at the differential should be increased by \$20. Admittedly, this is something of an oversimplification but it clarifies the idea. Essentially, the reverse of this situation would be true if the auxiliary activities ran at a deficit that was made up by appropriation of funds from current income of the institution.

REVERSE PROCEDURE LATER

It is well to point out that to the extent that the suggestions made earlier regarding deferred expense are followed in these times the procedure should be reversed at a later time when the expenditures for deferred maintenance are made. Otherwise in determining the differential a later generation of students may seem to be paying less toward the cost of their instruction because of high cash expenditures for maintenance which should have been done in years before.

Preparing the statement of the differential between what the student pays and what his instruction costs the institution is delicate business and requires as searching an analysis of distribution of income items as it does of the expense items involved.

Substantial progress has been made in the determination of costs and differentials, and the acute need for funds, which brings corporations and parents who are able to pay the full costs under consideration as sources of additional income, makes the careful determination of costs more necessary than ever before. It behooves the business administrators then to examine their methods of cost determination anew in the light of these current needs for valid information.

Beginning a new series on

MANAGEMENT SURVEYS

IRVING SALOMON

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THE PRIMARY FUNCTION OF A COLLEGE or university is to educate. Yet, to fulfill this purpose, there is a huge diversion of energies and funds into administrative and kindred channels. Today, because of the financial stringency of institutions, attention should be directed to this complex portion of college operations that is not instruction per se.

In the belief that studies of these areas can lessen the current fiscal woes of colleges and universities, the Fund for the Advancement of Education has been devoting an important segment of its time, energy and funds to assist projects that might increase the operative effectiveness of institutions and enable them to make greater uses of their available resources, thus facilitating achievement of their academic goals.

The fiscal problems of an institution can be ameliorated only by more effective and economical management, aided and abetted by additional sources of revenue and support. Hence, there should be growing recognition of the need for surveys of all management operations.

As the management survey is fast becoming an accepted instrument for accomplishing these goals, a need arises for interpretation and perhaps guidance. Some interpret the term "management survey" as the study of the entire institution, including many phases of instructional operations, such as class sizes, curriculum, course costs per-student-hour equivalent, in addition to all the administrative functions. Others consider a management survey as restricted to analysis of the administrative operations. Actually it is neither of these. When the term "management survey" is used herein, it refers to a study of every segment of the institution's operations except those that come strictly under faculty jurisdiction. It covers an infinitely

greater area than that which is merely "administrative."

It should be understood that the contents of this series of articles cannot solve the myriad administrative perplexities that face a scholar who finds himself suddenly in the president's chair. It should, however, confirm his suspicions that his non-academic problems are manifold and give him some perspective concerning the nature and dimensions of his responsibilities. It should foster the urge to institute controls that provide him with all essential information together with a regulating mechanism and at the same time lighten his task. For the more experienced college and university heads, so occupied with public relations and fund raising problems, in addition to purely academic obligations, that they lack the time to evaluate the effectiveness of their administrative operations, these data should enable them to determine their individual needs for a management survey.

While a management survey may not balance an unbalanced budget and certainly has limitations in squeezing

dollars from reluctant alumni, each dollar saved on library operations, for example, may provide more library books; each dollar saved on administrative or student services or auxiliary enterprises becomes available for faculty salaries or scholarship funds.

Some of the factors listed at the bottom of the page merit special discussion. No. 5, for example, is perhaps the aftermath of the heavy G.I. enrollment. During that period, administrative staffs grew fast; organizational lines became poorly defined; responsibilities were often vague. As a result there may be duplications and omissions, inadequate job definitions, obsolete office methods and machinery, and frequently an overburdened president. In institutions surveyed, one of the commonest situations is a deficiency in organizational procedures. This is present at the level of the president and top management even more frequently than in the lower echelons of operations.

Amplifying No. 9 in the list, budget figures and recapitulations often are meaningless, tardy or otherwise deficient. Almost every management sur-

Consider Management Survey Under These 12 Situations

1. A deficit or a prospective deficit
 2. Decreased enrollment trends
 3. Prospect of a materially higher enrollment and/or an important expansion program
 4. Special difficulties in attracting endowment funds or gifts
 5. Imbalance in the apportionment of the work load, responsibilities, communications or other breakdowns in the functioning of the organization
 6. Low morale in faculty and/or the administrative personnel
 7. Defective coordination between departments or an absence of esprit de corps
 8. Poor service—continuing complaints against any department whether voiced by student body, instructional or administrative personnel
 9. Meaningless and/or tardy budget figures
 10. Insufficient or inadequate reports, information or statistics (control data) that should reveal out-of-line conditions requiring corrective measures
 11. Unfavorable comparison with other institutions in some important respects
 12. Institutional objectives becoming vague, obsolescent or unduly difficult to achieve under existing conditions
-

Postpone Management Survey Under These Circumstances

1. If the president, business manager or some other individual who dominates the operations or policies is scheduled to retire soon. (It is preferable to have the survey take place under the sponsorship of a newly appointed official.)
2. If there are some special major problems that the survey could not solve, or some other study that might conceivably interfere.
3. If the institution is in the midst of some important policy changes and/or a corrective program of sizable proportions.
4. If it is anticipated that the report will fall into unreceptive hands and that valid recommendations will be unheeded or tabled.
5. If there will be topside resistance to installing the recommendations made.

vey has been surprisingly revealing in this regard. Much is due to a general lack of understanding or appreciation of the full purpose of the budget function. Hence, the top officials deprive themselves of a control implement that is quite elementary in business; in higher education it is especially important so that each activity receives its proper share of financial support. It is not uncommon to find that a budget bears little relationship to the functional structure of the institution and that there is improper distribution of budgetary responsibility and authority.

It is fairly ordinary procedure for one college or university to compare certain phases of its operation with those of others that are similar, at least in some respects. Such comparisons have been limited largely to elements that exclude detailed financial operations. Except where there have been mutual arrangements on an agreed chart of accounts, there has been no uniformity in ledgerizing in institutions of higher learning.

Realizing that there is such a need, the National Federation of Colleges and Universities Business Officers Associations is conducting a study in the field of uniform accounting. Sixty colleges representing nearly every geographical area in the United States are participating. If this experiment proves as successful as anticipated and if sufficient institutions adjust their own chart of accounts to conform with one another, educators will possess a gauge of operations that has been invaluable to commercial enterprises. With it, college executives can measure their operational figures against like institutions and thus evaluate properly the cost of each department and function. This will prove most useful even when it is necessary to

make allowances for qualitative differences.

Even without the availability of proper comparative statistics, an examination of the proportions (or disproportions) of divisional expenses should indicate whether a management survey is needed and also the areas likely to require particular analytical attention, even if the 12 situations listed appear to be satisfactory.

There is a noteworthy increase in the general awareness of college and university executives and boards of trustees to the subject of management surveys. Yet many have not given the matter serious consideration because they are unacquainted with the scope to which surveys have now been extended and the manner in which they are conducted.

While any one or more of the 12 factors outlined may warrant consideration of a management survey, there also are counterbalancing circumstances that might make such a project inadvisable. Even when there may be an urgent need for such a study, the matter should perhaps be delayed—at least until the climate is right. Sometimes such deferment need only await adequate orientation of a few skeptics.

As a survey could conceivably result in some embarrassment or even indictment of some members of the staff for inefficiency, or at least ineffectiveness, it is understandably important that the time and auspices be "right" to obtain the maximum benefit. This calls for clear understanding and acceptance by the dominating groups of the areas to be analyzed and the technics to be employed. This applies to all levels affected because, prior to proceeding, every individual concerned must be amenable to the indoctrina-

tion required in order to get the necessary cooperation. Hence, a prerequisite is that the study enjoy the concurrence, if not the enthusiastic support, of a preponderant majority of the official family. Furthermore, it is necessary that this interest be sustained because a survey often entails months of internal communications, coordination and joint evaluations, plus maximum cooperation in the corrective or implementation processes.

Moreover, certain organizational steps are required in connection with a management survey. Hence, a survey would be unwise if some internal situations preclude the appointment of an active committee and/or team that will have the following responsibilities: (1) to segregate policy from nonpolicy recommendations; (2) to determine the priority for the prompt implementation of nonpolicy recommendations; (3) to arrange for meetings at appropriate levels to discuss recommendations that concern policy; (4) to indoctrinate individuals to be assigned the task of installation and also the department heads involved; (5) to cooperate with these individuals, follow them up, and coordinate with them on reporting; and (6) to get the support of the top executives, who will cooperate with them fully, interest themselves in the interim reports of accomplishments, and assist them when obstacles require a top-level decision.

While the preceding circumstances normally warrant deferment of a general management survey to a more propitious time, even though sorely needed, a few areas requiring diagnostic attention may lend themselves to a fairly curtailed study. In most institutions there are less sensitive departments or functions that might be recommended for approval by the board of trustees and the officials, whereas a general survey might be vetoed. There are no objections to a limited survey, even if its scope is merely one or two activities.

In the final analysis, the question of whether to have a survey depends primarily upon whether the surveyors can proceed sure-footedly and comfortably and whether they can enjoy reasonable cooperation of the individuals responsible for the areas selected for study, even with prospective encroachment on their prior sanctity. It is not implicit that they agree on the findings, but they should be willing to give the resulting recommendations

unprejudiced consideration and, if found practical, assist in their installation.

The size and complexity of an institution of higher learning is such that a complete survey of all the elements that warrant study is not practicable. It would represent an exceedingly large expense and a long drawn-out process.

Determination of which areas should be surveyed can frequently be reached by a close observation of the functioning of the various units and departments and/or analysis of the individual annual expenditures. Moreover, few institution heads, even those with limited administrative experience, do not experience some discomfort over delayed, cumbersome and improper functioning. There is usually an awareness of certain specific problems and trends merely from exposure to them, even when there is an absence of controls and methodical report procedures. However, a contemplated survey should not be limited to obvious or suspected inefficiencies, but should be preceded by a review of the items incorporated in the condensed list to be given.

While a university or college president should have relatively little difficulty in determining what should be surveyed, his decision is circumscribed by one question, namely, which areas can the appropriation cover? One of the first steps, therefore, is to segregate the functions and areas that require the most urgent attention and are likely to produce the greatest economies. If the appropriation is sufficient for this, what other areas can it be stretched to include?

Another decision must be made at the outset, namely, whether the survey is to be conducted by a firm of professional management consultants, by selected members of the institution's own staff, or by a combination of these. Obviously, the appropriation for the same coverage must be more if outside professional skills are employed, either fully or partially.

Certain areas seem to have been more commonly included in management surveys, perhaps because they have the greater potential for improvement. As a supplementary guide, they are listed below:

1. Office of the president, including academic organization, definition of key positions and responsibilities
2. Library facilities, staff and services*
3. Student aid

4. Organization and functioning of admissions office

5. Maintenance of buildings and grounds*

6. Budgetary organization, formulation and execution

7. Accounting organization, procedures and functions*

8. Disbursements and accounting controls pertaining thereto

9. Health service

10. Food service: organization, physical facilities, procedures and controls*

11. Bookstore*

12. Other auxiliary enterprises*

13. Purchasing operations*

14. Stores control

15. Utilities

16. Duplicating, printing, university publications*

17. Faculty personnel administration

18. Nonacademic personnel administration*

19. Space management and utilization

In reviewing reports of professional management surveys, in almost every instance where these departments or functions have been examined, there have been recommendations for improvements. *Those with asterisks have generally resulted in some budgetary economies.* The others also probably produced monetary savings through increased effectiveness but, being indirect economies, cannot readily be measured.

BENEFITS DIFFICULT TO GAUGE

Incidentally this applies to many of the recommendations pointed out in a survey and should be remembered in selecting the departments or functions to be studied. It is often difficult to gauge the full benefits or the economies that accrue through improving the efficiency of certain units. For example, while there is no apparent fiscal advantage to a reorganization that would lessen the routine responsibilities of the president, freeing some of his time for more public relations and academic tasks has intrinsic values that cannot be computed. Thus in determining which elements to include in a prospective survey, while some priority should be given to those most likely to produce budgetary economies, at the same time consideration should also be given to others that have unmeasurable benefits.

Concomitant with selecting the agency to conduct the management survey is the initial planning in the

shape of steps for preparing an institution for the survey program. Normally they are:

1. Tentative estimate of the funds to be allocated for this purpose.

2. Discussion of sources of funds for surveys: regular budget, special appropriation, foundation grant, special gifts, or other.

3. Decision concerning the areas to be studied. (If there is a large number, assign priority to the more pressing problems.)

4. Determination of the technics that are preferred. If a reconnaissance survey is deemed most suitable, select the areas where greater penetration is desired.

5. Consideration of the matter of timing. The work should proceed during the periods of the year when activities are most nearly normal.

6. Initial orientation meeting and/or consultation with such members of the faculty and administrative staff who might be exposed to any phase of the survey activities.

7. Preliminary or tentative plans for disseminating the findings of the survey and for implementing its recommendations.

This last point must be emphasized, for the survey and the report are only the initial steps. The benefits are only derived when the recommendations are properly executed. In order that a survey report does not become another dust-gatherer in the library, planning for the implementation of the study should take place early in the program. This should embrace:

1. Procedures for introducing the recommendations to the individuals affected.

2. Machinery for supervising and checking upon the implementation of proposals.

3. A system of progress reports.

4. Establishing a time schedule for completion of action on recommendations made.

5. Following up the installations and appraising the results.

Another decision might be made at this early stage, although it could be deferred if the survey is to be conducted by the institution's own personnel. It is making plans for continuing assessments at some later date. If outside management consultants are employed, the negotiations should preferably include some arrangements for the continuation of their consulting services.

(To Be Continued Next Month)



Indoor Ice Rink at Middlebury Is Vermont's First

GEORGE H. HUBAN

News Bureau, Middlebury College, Middlebury, Vt.

MIDDLEBURY COLLEGE, LOCATED IN an area noted for its winter sports, dedicated the first artificial ice rink in the state of Vermont last February 17.

Two days later Middlebury dedicated its new ski lift in the college's Snow Bowl. There are only three lifts of its kind in the United States, although there are 150 of them in operation in nine countries. The lift extends for 3000 feet and has a vertical of 750 feet with a capacity of 900 persons an hour. Middlebury is now the first college or university in the nation to have its own professional type of ski lift.

Middlebury's new artificial ice rink is proving popular with both college students and townspeople. The college's hockey team uses the rink for

its home games and for practice. Physical education classes and intramural hockey teams also use the rink, which is used, too, for the annual college ice show, and for general skating.

The rink occupies approximately half of the World War II Memorial Field House and Gymnasium, erected in 1946, which is the largest building in the state. The ice surface is 85 feet by 185 feet, and seats are provided for more than 1600 spectators.

Approximately 10 miles of steel pipe is used in circulating the brine used as a refrigerant. This includes 52,239 feet of 1 inch black pipe, as well as small footages of 1/2 inch to 8 inch black pipe.

Refrigeration capacity is in excess of 52 tons, provided by two four-cylinder

3 1/2 by 3 1/2 compressors, through 8 inch mains, and a three-pipe reverse header system. The headers are graduated from 8 inches to 4 inches.

The 1 inch pipe is spaced 4 inches, center to center, throughout most of the rink area and 3 inches at the edges. Each section of pipe forms a long loop, extending from the feed line to a hair-pin bend at the opposite end of the rink, and then back to the return header. The lengths of pipe are welded together and are supported on 1/2 inch steel pipe placed 6 feet apart.

Before the pipe was laid, a base of 2 1/2 inch foam glass insulation blocks, over cement, was put in place. The pipe is embedded to the center line with concrete, and above that with road asphalt (to the thickness of 3/4



Above: Workmen align and tie down the $9\frac{1}{2}$ miles of pipe which carry refrigerant for ice rink. Right: Looking down the header pipe to which the feed and return lines are connected to circulate refrigerant. Below: Asphalt is laid over pipes so field house can be used for other events after ice is removed in spring.



inch above the pipes). The asphalt serves as a flooring, permitting the use of the field house for tennis and other events when it is not required for ice sports.

The Memorial Field House and Gymnasium is an arched roof structure 400 feet long by 120 feet wide, extending 42 feet from the floor to the peak of the roof. One end, floored with 17,000 square feet of maple, serves as the gymnasium. The other end comprises the field house, used for ice hockey and other sports. The building, which is also headquarters for the R.O.T.C. unit, contains a rifle range, offices, locker rooms, and showers.

Middlebury College, a coeducational institution, occupies a 250 acre campus in the heart of the Champlain Valley.



For Men in Residence

***University of Washington builds
first of several dormitories***

IRWIN S. BLUMENFELD

Director of Information, University of Washington, Seattle

LOCATED THREE BLOCKS FROM THE campus, the new men's residence hall at the University of Washington is the first of several residence halls that eventually will house about 2500 students. The existing building represents one-half of a complete unit and accommodates 615 persons—593 students, 18 guests, and four employees. Another tower of residence rooms attached to the low section of the east end of the existing structure will constitute the completed building. Certain

spaces and equipment will be common to both sides of the building when it is finished. The present kitchen will service a second dining hall with additions in equipment but with no additional space. Employees' locker rooms, food storage rooms, and the snack bar will not have to be duplicated in the next building.

The 12 story building is divided into five living units, each containing 58 double rooms. These two-story living units are called "houses," and

each has its own two-story lounge, kitchenette, linen and typing-study rooms. A common washroom serves each floor. On the ground and first floors facilities are shared by all students, such as the laundry room with coin operated automatic washing machines and driers, four music practice rooms, hobby room, darkrooms, trunk storage room, ski storage room, storage locker room, coatrooms, conference room, main lounge, recreation rooms, and snack bar.



New 12 story residence hall houses 585 men and consists of five two-story living units, a main floor, and a ground floor. At the right is the dining hall, which is shared by all students.



A graceful circular stairway leads from the ground floor main lounge of the new men's residence hall to the main floor of the building.

One large dining room, seating about 450, and a smaller one, seating about 115 students, are located on the first floor. Two cafeteria lines serve both dining rooms. The small dining room is available for exchange dinners and special dinners that any "house" might care to sponsor. A private dining room that seats 12 is available for small groups of students who want to eat together with some degree of privacy. The small dining room is equipped with a movie screen, and an adjacent room affords space for projection equipment and amplifying equipment with turntable for playing music in all dining rooms, as well as the recreation room on the floor below. Kitchen employees eat in a small dining room next to the kitchen.

A basement garage under the two-story section of the building provides space for 61 cars. This area is mechanically ventilated and has a sprinkling system. Exterior space for an additional 124 cars is available in university owned parking lots near the building. All storage areas below grade

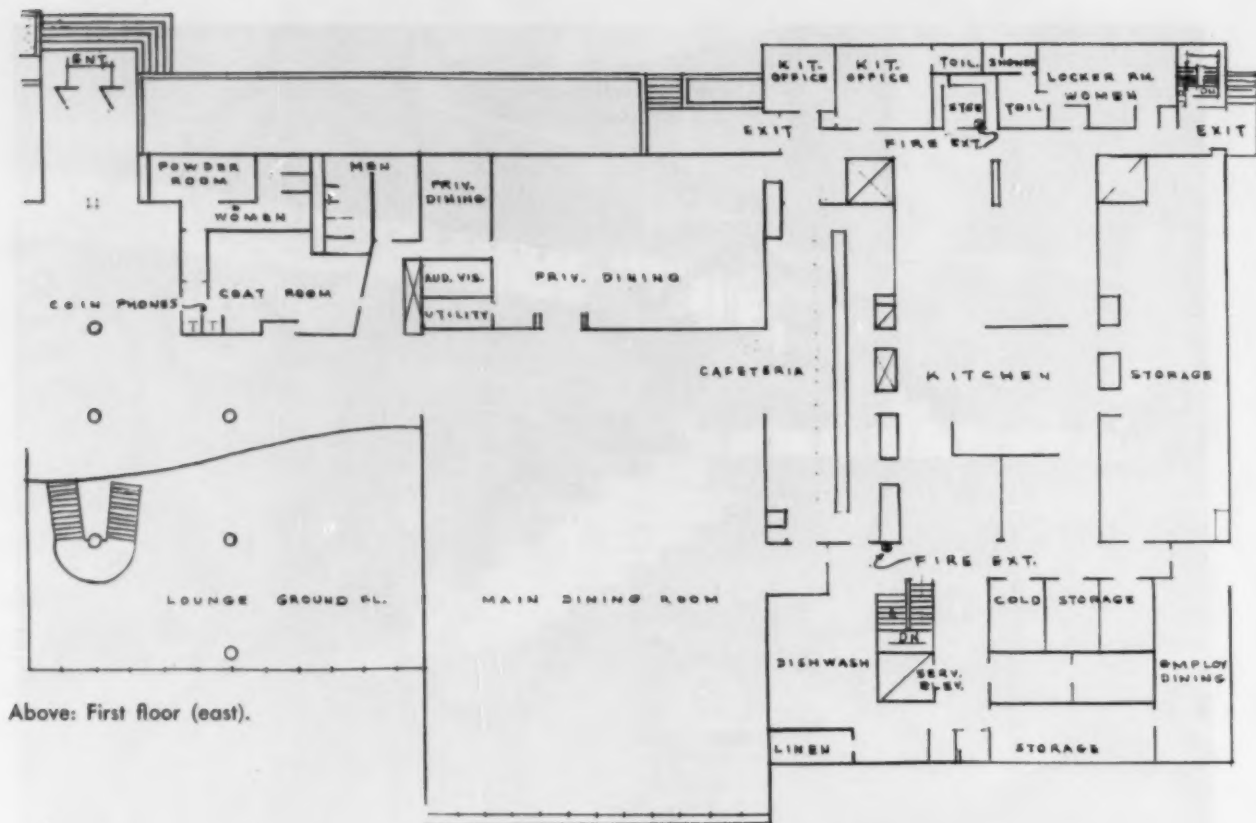
also are equipped with sprinkling systems. Students can empty their own wastebaskets into an incinerator that opens on each floor. Storage locker rooms provide a wire mesh locker of approximately 27 cubic feet for each room in the building. This space is intended for suitcases, athletic equipment, and out-of-season clothing. In addition, there is a storage room where large trunks may be checked.

Nine guest rooms on the south side of the first floor are equipped with eight private baths and are finished like hotel rooms to accommodate transient guests. They are available at modest rates to parents and guests of residents, participants in university sponsored short courses and conferences, and visiting faculty members.

Two high speed elevators provide access to the upper floors. They are passenger operated and are designed to meet the peak loads at meal hours.

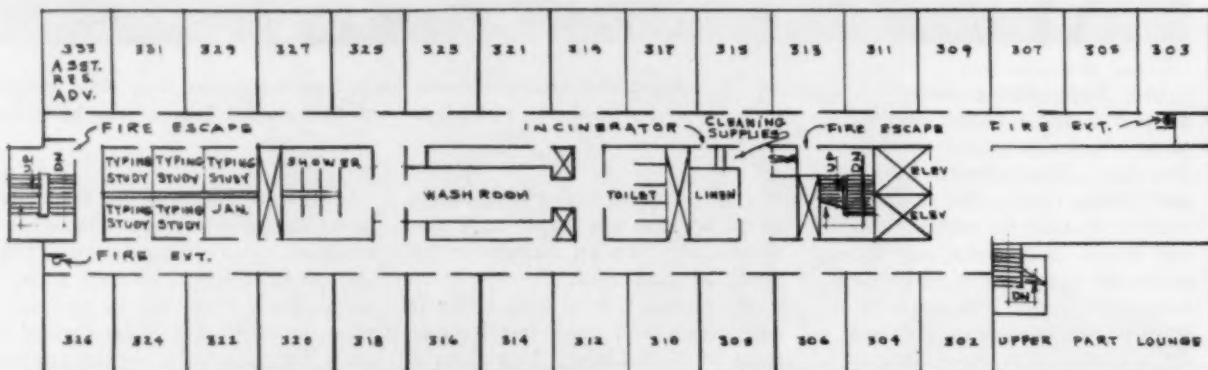
A central office on the first floor serves the entire building. The switchboard is located behind the main desk and provides service to each student room. Every room has its own telephone and the students are charged 5 cents for each outgoing off-campus telephone call. Numerous coin telephone booths are available for long distance calls. A mail box with a combination lock is provided for each room in an area adjacent to the main desk.

Each "house" has a resident adviser who is a graduate student and is responsible to the manager of the building. Resident advisers are available to assist students in adjusting to the university and residence hall environment. They assign rooms and inspect rooms when the students check out. The resident advisers work with the "house" officers in planning the educational, recreational and social



Above: First floor (east).

Below: Typical plan for floors 3, 5, 7, 9, 11.



Architect's drawing showing existing unit, left, and proposed second unit, far right.



program of the various groups. In addition to the resident adviser, there is a house manager for each "house" who assists the resident adviser in checking students in and out, and who has certain maintenance duties within the "house." Both of these students are responsible for the conduct of the residents in their area.

Ultimately the director of student residences is responsible to the dean of students for the personnel program of the residence hall. A representative of the dean of students' office meets regularly with the residence hall manager and resident advisers so that a close working relationship exists between the two departments.

The building is constructed of reinforced concrete and is designed to withstand such seismic forces as might occur in the Seattle area. Ground and first floor levels are faced with a local, buff colored brick that is common to nearly all campus buildings; the remainder of the exterior is finished in smooth, cement painted concrete. Silicone dampproofing was included in the contract for all masonry surfaces other than the concrete. Most of the floor surfaces are covered with asphalt tile. The first floor entrance area, lobby and dining rooms have terrazzo floors.

Traffic is heaviest in the lobby, where walls are ceramic tile block. The walls of the dining rooms are wainscoted with laminated phenolic insulated material in frosted walnut finish. Kitchen floors are quarry tile; the walls, ceramic tile blocks. Ceilings in dining rooms, lobby and main lounge are treated with acoustical plaster. All corridor and typing-study room ceilings are covered with perforated acoustical tile. Ceramic tile floors and ceramic tile block walls are used in washrooms. Rustproof steel sash were installed throughout the building. Large windows are glazed with 1/4 inch plate glass and small ones with 3/16 inch crystal sheet.

In the residence portion of the building, two measures were carried out successfully in an attempt to cut costs. Along one wall of the hallways and throughout the entire underside of each slab, a great deal of care was taken in the form work to get a smooth, straight pour. When forms were removed the surfaces were cleaned and all depressions were filled by troweling with spackle. The resulting surface, when painted, is most acceptable without plaster. The other

measure was the use of 2 inch dry wall partition which saved considerable space as well as material.

A hot water down-feed system receives its source of heat from the central boiler plant on the campus by means of an underground tunnel distribution system that feeds all campus buildings. The same tunnel system also provides power and telephone service. Large rooms and rooms without windows are mechanically ventilated with electronically filtered tempered air. Two 500 foot-per-minute gearless-drive passenger elevators serve the building, and one freight elevator provides service from the ground floor to the kitchen on the first floor. Stainless metal is used on most fixtures and equipment in the kitchen. A rotary oven supplies the baking needs, and a machine of the belt type handles the dishwashing problem.

Main considerations in making furniture selections were simplicity, durability and suitability. The main lounge has especially designed leather

furniture. Large low tables with terrazzo tops and iron legs in free forms are of such scale that they make an important contribution to the appearance of the room. The main lounge and the guest rooms are the only rooms that have carpeted floors.

Upstairs lounges are not as richly furnished and are more informal. Most of the upholstered furniture is covered with fabric-backed plastic material. Tables have tops of laminated phenolic insulated material.

All student rooms are of the same dimension (11 1/2 by 15 1/2 feet) and are furnished identically. Each two floors, or "house," has its own color scheme; draperies are sun yellow in rooms exposed to the north and blue in windows with southern exposures. Built-in furniture is used in the student rooms to afford maximum use of the space and minimum maintenance. Desks, window sill, bed bolster, and dresser top are topped with laminated phenolic insulated material.

Illumination is provided by two 2 foot fluorescent fixtures located above

Main lounge fireplace in new men's residence hall. Fireplace hood is black with Husky, university mascot, and university motto in copper.

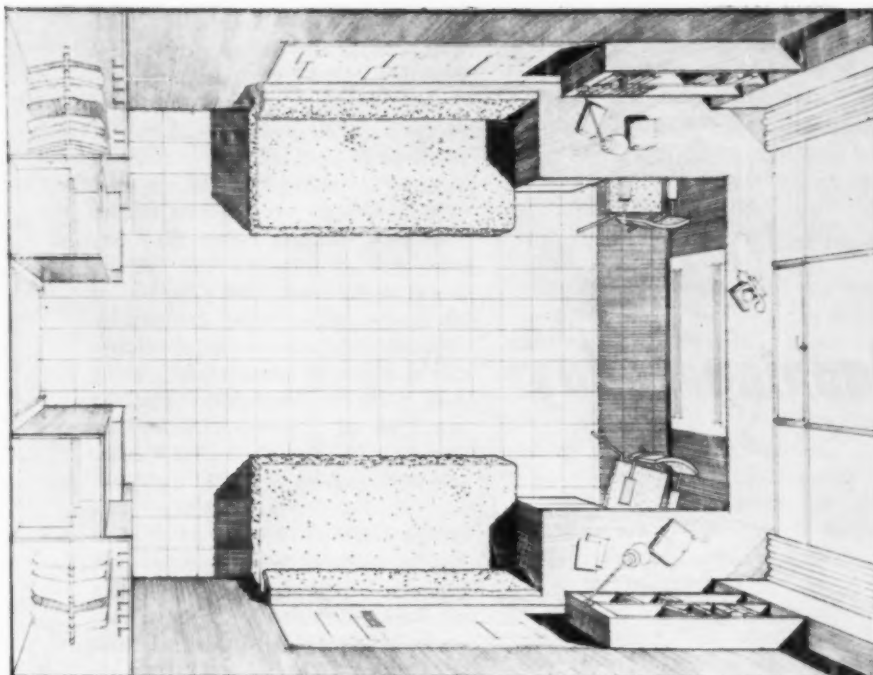




Above: Large dining room seats 450 students; smaller one, not shown, seats 115. Left: Pass through compartments for hot and cold foods are features of kitchen arrangement. Other side of compartments can be opened by workers in the cafeteria.

the desk and under the bookcases and an incandescent, adjustable swinging arm fixture that can be projected on the desk, bed or on the ceiling for general illumination. A secondary source of light is located over the mirror above each chest of drawers. About 75 per cent of the exposed wall surface in the rooms is covered with a plastic fabric to give a decorative surface that is not damaged by cellophane tape or thumb tacks.

The 36 by 80 inch twin beds in the rooms can be used as settees and can be pulled out from the walls on tracks for use as beds. To reduce costs, 342 old cotton mattresses from



Top perspective drawing of student room showing built-in furniture.

Photograph of student room, looking toward closet and chest of drawers.



temporary dormitories were remade. The rest of the mattresses are inner-spring. Bed springs are of the heavy duty, open coil type. Box springs were installed in the guest rooms. The bed linen and blankets were already available on the campus.

The total cost of construction, furnishings and equipment to put the building in operating condition was \$2,809,548.97. All furnishings and equipment are new with some minor exceptions, and kitchen equipment included china, silver and all utensils. Office and janitorial equipment is included in the figure.

Financing for the building was provided from the following sources: housing funds on hand, \$1 million; University of Washington building fund, \$300,000; government (Housing and Home Finance Agency) bond issue at 2¾ per cent interest, to be repaid from residence hall revenue, \$1.5 million.

The architectural firm that designed the residence halls is Young & Richardson, Carleton & Detlie, Seattle.

Producing an environment

supported by logic

is the architect's mission in

College Planning Today

WILLIAM L. PEREIRA

*Pereira & Luckman, Architects
Los Angeles*

I HAVE SEEN MANY OF THE GREAT universities of Spain, France and England in action today. What is transpiring in these countries plus what we have all read about the unfriendly countries leads one to an unescapable conclusion—that today education is the most potent factor in the development of nations whether we agree or not with the goals set by these nations. Every nation in the modern world is emphasizing and using the educational process as the basis of its support. By all odds, it is the largest and most important industry in the world.

The American college can never be the same again. If for no other reason, the virtual doubling of enrollment in the postwar years has posed problems that cannot be solved without tremendous and thoughtful expansion. The product of our colleges, the graduating student, is no longer a luxury in our society but instead is a necessity to our economic and sociologic life. Not only are we observing industry making a place for him immediately upon graduation, but we are finding those industries whose business is science or technology competing for his services.

What then is the mission of planning for the college—new or old today? In my opinion its mission is

to provide the appropriate environment to encourage the educational process. It is not simply to provide a building or buildings because no building ever educated a student.

What is the environment? Ideally it is a complex that provides to the Nth power for the living, labor and leisure of the students and faculty. Such a goal can never be realized with planning principles based upon status quo. It can only be realized by planning principles truly creative in origin and dynamic in essence.

BLEND OF ESTHETIC AND PRACTICAL

The physical college, when successful, is the result of the appropriate blend of the esthetic and practical. It is, on one hand, what is meant by psychological atmosphere, character and tradition, and, on the other hand, what results from such considerations as capital costs, operating costs, proximities, efficiency and facilities. It is impossible to attain just the right quantity of each of these elements and, consequently, the college is not always what it wants to be physically but is more often what it has to be. This is true whether it is an old college or a new one. What causes the compromise in the hopes and aspirations? It is its friend and its enemy—money. This is the common problem of both private and public institutions. The well run state university and the well run private institution are subjected to the problem in exactly the same

manner and deal with it in the same way. Funds are never so plentiful that they can be used unwisely.

One of our most frequent errors today is to treat the attainment of funds as an end in itself and not as a means of coming closer to the ideal physical college. At times we expand with new facilities rather than correcting or adapting the old. We are forced to live with the principle of having grown like Topsy. Our past inadequacies are accepted on the theory that somehow or other a job is being done with the consequence that the principles of dynamic planning are smothered under a cloud of misunderstanding resulting in a very high cost. It is not wise to judge a college plant on the basis of the kind of product it is turning out with its brand new facilities but it also must be judged on the kind of product it is turning out with its old facilities. Here is our greatest universal weakness.

The most difficult problem today is not how to plan a new university or college but rather how to expand and use the existing college. The "how" is through master planning of a quality that will tax all our skills, experience and ingenuity. Such a master plan must be flexible, expandable, understandable and, above all, up to date. It must have built into it the capacity for change and improvement, and even reorientation.

Master plans that have been made without these qualities are gathering dust; they were unworthy of adherence. Awakened from deep sleep after a 10 or 20 year period, like Rip van Winkle, they find the world changed. Their very existence causes embarrassment. Yet even on the day that they were born the sign posts existed that clearly connotated the things to come. Wherein was the failure? It was the misuse of the real doctrines of master planning.

Fortunately, it is really never too late to plan again. It is better to go on with a less than perfect master plan for the future than to do without one entirely. If for no other reason, an up-to-date master plan must be in existence for funds that may be made available to the college. Frequently these funds are lost because too much time elapses during the process of getting an up-to-date master plan in order to make use of the funds.

What is involved in the preparation of the master plan? Its future

From a paper presented at the 41st annual meeting of the National Association of Physical Plant Administrators of Universities and Colleges, Pasadena, Calif.

responsibilities, the educational process, and its past traditions. Who is involved? The trustees or regents, the educational administration, the business administration, and the faculty. However, we frequently take the trustees' knowledge of the physical college for granted and, as a result, do them a great injustice, which ultimately may cause an undue hardship. I strongly recommend that, during the process of keeping the master plan up to date and relative, it be at least presented annually to the trustees to get their interest and to further their education.

Another area that has frequently been neglected in the master planning process is the physical and psychological relationship of the physical college to the community. The impact of the college is felt in the road system, adjacent land use, public utilities, housing and commerce.

ANALYZE EXISTING FACTS

In gathering the facts together prior to preparing a new master plan or simply bringing a master plan up to date, it is essential to analyze what exists. For example, are the existing facilities being properly used and can they be improved at a reasonable cost? If new facilities are required, will they lend themselves to multi-use in lieu of custom-made solutions to current requirements? We must get greater utilization per square foot per educational dollar and, consequently, we must reevaluate some of the norms we have accepted for many years.

For example, in regard to libraries, we have costly structures generally ideally located, usually faced with the problem of constant expansion. We have had occasion to observe many of these libraries in use and find that a large proportion of the student population occupying space in the library is not drawing on the library's literature at all. They are using its quiet and convenience as a study hall. On the other hand, we have observed a comparatively low utilization, percentage-wise, of classrooms. Could not the unoccupied classrooms be utilized for study hall purposes?

As part of the fact-gathering process, it is essential that the teaching methods currently used by the faculty be compared with the teaching methods of other colleges on a per subject basis. All too often we plan our buildings in such a manner as to dis-

courage progress in teaching technics, and we have frequently been subjected to diverse opinions on planning when replacing one department head with another. These two facts, the teaching methods and the personalities and backgrounds of individuals, often cause what we call frozen buildings—facilities that cannot accept inevitable changes.

One of the most neglected and most important facts consists of the determinations that result in a prediction as to the ultimate size of the university. If we must continue to forego the ideal size, we must at least be willing and able to determine the practical size. This determination in our opinion is possible and must not be postponed indefinitely. It cannot be predicted on how many students the university can or will get but must be predicted on a scientific determination of what it can handle and still ensure the appropriate return on an investment of from four to six years of a student's life.

College planning has advanced considerably from the days of just making things do. It has been forced by circumstances to become both an art and a science. It is now evident that the planning problems can only be solved when approached in a spirit of pure research and analysis.

I want to touch on a subject that will have a profound effect not only on our universities and colleges but also on our entire educational system and process—that is television. To the college it means bringing current

events and great personalities in society in action. From the college it means the expansion of the college's influence into society and giving it many of its benefits. Television will take the walls that society sees around our colleges away and widely distribute all the forces for good that naturally exist within a college. Through television a proper inter-relationship with other institutions will come to pass.

TV AFFECTS PLANNING

When adequately studied and properly evaluated, the use of television will have a profound effect on the design of our buildings and our master planning. Many of the services the college was required to give at great cost will now come to it at relatively little expense. By means of closed circuits, the college will trade its individual advantages in return for another's individual advantages. Lecture halls are going to be different. We are not only going to bring the works of great teachers to the universities through their writings but we also are going to bring their personalities. I doubt very much whether we will have to move our people around as much as we do now. We may bring our subjects—our libraries—to the classroom.

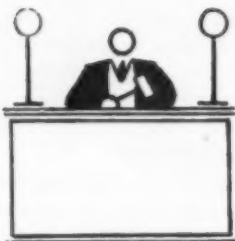
I could go on at length on all of television's implications. Let it suffice to say that, at the very least, television can and will make an improvement in the teaching and learning process, and this is the actual reason for the existence of the college plant.

In the final analysis, we are not dealing with buildings, budgets or even facilities. The process of education is meant for our young people. It is meant for students in the true and final sense. The success of our work is measured by the quality of our students. We fool ourselves, all of us—regents, trustees, legislators, donors, faculty and planners—when we underestimate the perceptive qualities and reactions of students to the necessary and unnecessary compromises we make in the college plant. The college plant exists for them and for no other reason. Let us remember that the most persistent quality in education is the seeking after of truth. In planning there is also a truth to be found; it is not an affectation, it is what works and works well. In the end, it produces an environment supported by logic.



Instead of expanding the old library, perhaps unoccupied classrooms could be used for the study hall function of the library.

Syracuse University and Its College of Medicine



T. E. BLACKWELL

*Vice Chancellor and Treasurer
Washington University, St. Louis*

THE COLLEGE OF MEDICINE OF SYRACUSE University was established in 1872. It was a continuation of the Geneva College of Medicine (1835-72), which was, in part, successor to the Fairfield Medical College, established in 1812. During its long history, it had accumulated a number of endowment funds. By contract, it was transferred to the State University of New York in 1950.

At the time the college of medicine was transferred, the officers of Syracuse University believed that some form of affiliation between Syracuse and the State University would be established and that such relationship would permit the transfer of endowment income without opposition from the donors. When the state of New York made it clear that it did not desire such an affiliation, certain donors and their representatives informed the officers of Syracuse that they would oppose any transfer of income to the State University. This created an awkward legal dilemma.

The State University officials, contending that the contract was the sole issue between the two institutions, made repeated demands upon Syracuse to go into court and, by appropriate petition, obtain the approval of court for the transfer of endowment income, as provided by the terms of the written agreement of 1950. Syracuse University took the position that it had trust obligations to donors and that it should not ask that the earnings be transferred before some form of affiliation or relationship between the State College of Medicine and Syracuse had been established.

On July 1, 1954, the State University made an application to the court

for a writ calling for specific performance of the provisions of the contract between the parties.

On the same day, Syracuse University made application to the court in Onondaga County in respect to the income from one of the endowments in question. In its petition, it alleged that there was no legal relationship between the two institutions with respect to teaching and research or between the faculties or student bodies of the two universities. Since no such affiliation existed, Syracuse University was, in its opinion, unable to say to the court whether the transfer to State University of the income from the fund described in the petition would accomplish the purpose of the trust unless the transfer was for the support of a teaching or research project in which both institutions had an interest and share of control.

The officers of the State University, on the grounds that the language of the petition of Syracuse University was not in conformity with the provisions of the 1950 contract, filed suit to restrain Syracuse from proceeding with the action until its own petition for specific performance under the terms of the contract had been acted upon. Endowments in excess of \$1,250,000 were in issue.

On Dec. 2, 1954, the supreme court of New York,¹ speaking through Justice Bergen, had this to say:

"The vital point in issue between the two universities in this action is the tenor of the application to the court which Syracuse University is required by its contract to make in order to authorize the payment of income

from endowment funds to State University. . . .

"There is no doubt that Syracuse University is required to seek, in good faith, a judicial authorization of such transfer of payments. This it has agreed to do by every fair intendment of its contract transferring the Medical College. . . . In its application to the court Syracuse University is bound to ask for relief in a form indicating that it wants the application granted; for this is what it agreed to do.

"The obligation between the two universities in respect to this duty is the essential problem before us."

The court then proceeded to rule that the *cy pres* proceedings instituted by Syracuse University should be restrained by court order, pending the settlement of the State University's action against Syracuse for specific performance of the terms of the contract.

On Oct. 1, 1954, the supreme court of New York had dismissed a counterclaim of Syracuse University against the State University² on the ground that the statute creating and defining the powers of the State University disclosed a clear intent on the part of the legislature to create a mere corporate agency of the department of education of the state and not a corporate entity, capable of suing and being sued in its own name. Hence, State University is a mere subdivision of the sovereign state of New York and can therefore be sued only with its own consent. By statute, such consent has been given, provided suit is brought in the special court of claims. It follows that it is immune from suit or counterclaims asserted against it in any other court of the state.

In January of 1955 an out-of-court settlement was negotiated between the two institutions, and Syracuse University agreed to pay the sum of \$87,842.21 to State University as income from the Horace White Fund for a period from June 1, 1950, to July 1, 1954. Syracuse University had contended that the consent of the donor of each fund should be obtained, if possible, to any transfer of endowment income. This point was conceded by State University in the settlement. Syracuse University agreed to seek the consent of the living donors of each of its medical college endowment funds (approximately 24) before instituting *cy pres* proceedings for the transfer of income to State University.

¹State University of New York *v.* Syracuse University, 133 N.Y.S. 2d. 539.

²State University of New York *v.* Syracuse University, 137 N.Y.S. 2d. 916.

EXPENSE FOR AN ACCIDENT PREVENTION department can be budgeted with a high degree of accuracy. The cost of accidents are only roughly predictable and are subject to violent fluctuations.

Workmen's compensation and public liability insurance provides some stability, but not enough. It will partly cover direct losses; it can provide specialized investigation and defense services. Insurance safety engineers inspect, recommend structural changes, and furnish general prevention ideas. The premium for a single year does convert direct losses into a definite charge. When a merit rating plan is used and is supplemented by an adequate internal prevention program, all costs and all losses can be reduced.

Experience at Yale University verifies many of these conclusions; all have been substantiated by the records of both large and small industries.

After trying various plans, Yale in September of 1953 established a department of accident prevention. The director's primary function is to prevent accidents. Perhaps, a brief examination of the situation at Yale, the general methods used, and results obtained would be helpful.

On the New Haven campus, Yale consists of 72 main buildings. In them are 78 elevators, of which 58 are passenger. In addition to instructional machinery and equipment for engineering, physics and other sciences, there are numerous machine and woodworking shops. The university operates 64 motor vehicles, 40 of which are trucks. Two large power houses generate electricity and provide heat. From the divinity school on the north to the medical school on the south, the distance is 2 miles. On the western outskirts of the city are the Bowl, athletic fields, and the field house. Beyond is the golf course. At Lyme, some 42 miles away, the department of civil engineering has 2300 acres and dormitory and instruction buildings. In northeast Connecticut are forests and buildings of the school of forestry. The physical plant is extensive and varied.

Yale's employees number approximately 3600, of which 2000 are non-faculty; the student body is 7500. In the fiscal year July 1, 1953, to June 30, 1954, 9 per cent of the employees suffered accidental injury. More than 10 per cent of the students were involved in accidents not connected with sports. A department of employe

Conserving resources through

Accident Prevention

LINCOLN H. LIPPINCOTT

Director of Accident Prevention
Yale University

health service was organized in April 1948. Last year 21 per cent of its cases involved work incurred injuries.

The first job of the new accident prevention department was an analysis of all employe work accidents from July 1, 1951, to Oct. 1, 1953, in order that a prevention plan might be designed to meet real needs. These 687 cases revealed the scope of the problem. Out of 31 possible causes of injury, 28 were involved. Causes ranged from cuts, falls and strains to animal bites, insect stings, and attack

by a psychopathic patient. Few industries have so long or diverse a list.

Activities involved also covered a wide range. Some of them were roofing; stone work; mechanical snow removal; electric installation; food preparation; laundry; handling of chemicals, virus, bacteria; operation of circular saws, joiners, lathes; chemical waste disposal; production of nuclear energy. Elements of many and diverse industrial situations were present. Some, like the use of nuclear energy, are just beginning to enter

THREE-YEAR RECORD OF ACCIDENTS IN YALE UNIVERSITY July 1, 1951, to June 30, 1954

Kinds of Injury		Parts of Body		Direct Injury Causes	
1. Cut	349	1. Fingers	305	1. Sharp object	236
2. Bruise	200	2. Hand	102	2. Fall	118
3. Strain	93	3. Eyes	75	3. Slipped	89
4. Burn	74	4. Head	63	4. Lifted	80
5. Foreign material	70	5. Lumbar	56	5. Moving object	78
6. Sprain	61	6. Ankle	47	6. Falling object	69
7. Infection	38	7. Knee	43	7. Bumped	61
8. Pinch	38	8. Wrist	41	8. Flying object	40
9. Disease	35	9. Forearm	39	9. Chemical	39
10. Bite	26	10. Leg	34	10. Hot liquid	28
11. Break	14	11. Chest	32	11. Swinging object	27
12. Sting	5	12. Shoulder	30	12. Tripped	26
13. Shock	4	13. Foot	29	13. Animal	25
14. Hernia	2	14. Elbow	29	14. Hot object	25
15. Dislocation	1	15. Toes	16	15. Pulling	15
16. Fatal	1	16. Abdomen	16	16. Pushed	12
		17. Pelvis	15	17. Low clearance	11
		18. Thigh	14	18. Bacteria	10
		19. Biceps	13	19. Poison ivy	10
		20. Neck	6	20. Radiation	7
				21. Insect	5
				22. Fire	5
				23. Gas	5
				24. Electric current	5
				25. Dust	3
				26. Explosion	2
				27. Other person	2
				28. Heat	1

the problem of the commercial plants. The analysis showed that every part of the human body had suffered hurt. To emphasize this point a four foot cardboard skeleton hangs in the department office. On it are tags showing the number of head, eye, arm and other body parts injured during the 3½ years ending Jan. 1, 1955. The five body parts most frequently injured are: fingers 347, hands 129, eyes 91, head 70, lumbar region 70.

Kinds of injury were listed in 16 categories in order of frequency. The first five were: cuts, bruises, strains, burns and foreign material. Significantly this order has persisted since the first survey of October 1953. The figures as of January 1 of this year are as follows: cuts 482, bruises 242, strains 120, burns 88, foreign material 80.

Tabulation was made of day of week and time of accident, age of injured, and length of employment. Day and time appeared to have little significance. The age spread ran from 17 to 80 years with almost every age between represented. Those under 30 were responsible for 25.6 per cent of accident total; those under 50 years, for 64.4 per cent.

"Period of employment" revealed significant facts. Those with less than one year constituted 23 per cent of the injured; under six years, 50 per cent. In one large department 53 per cent of the accidents involved new workers with less than one year of employment. This variation from university-wide experience highlighted problems of selection and induction training.

With this clear knowledge of the causes of accidents, the resulting injury, and an appraisal of the cost and waste to the university, three simultaneous lines of prevention activity were initiated. These involved obtaining supervisory cooperation, employee motivation through organization of safety committees, and recommendations for the removal or guarding of specific hazards.

Supervisory support is basic for a prevention program. As there are 90 individual departments at Yale some regular means of communication seemed necessary. A monthly bulletin to supervisors would perform at least four functions: (1) It would inform them of the general situation; (2) it would suggest general programs for correction and prevention; (3) it would invite inquiry on definite and

immediate problems; (4) it would suggest specific plans of general application.

Out of the text for the January 1954 issue came the title for this bulletin. The first line read "Analysis of 778 accidental injuries to Yale employees indicates that all could have been prevented." This was a challenging statement and so the name the *Yale Challenge*. This first *Challenge* set out a nine-point program that is now being developed.

FORM COMMITTEES OF WORKERS

Only as prevention becomes an individual attitude and habit of action are maximum results obtained. To promote this ideal, committees of workers were formed. At monthly meetings they report on hazards in the department they represent. A review of accidents since the last meeting is discussed. Recommendations for inspections, safety handbooks, and similar plans have been made. Brief minutes are sent not only to all members, but to the heads of departments. Many of the suggestions made at meetings are acted upon before the director of accident prevention can personally inspect the hazardous condition or procedure. Worker acceptance of responsibility and pride in accomplishment are definitely evident.

Special problems, brought to attention by accidents reported by department managers or discovered through inspections, reached a total of 59 by January 1. Many have been marked "completed." Others are in the installation stage. In some cases a solution still is being sought.

These activities further emphasize the wide variety of university problems. Typical jobs are: new stair treads and handrails, new lights and light switches at new locations, a cleaning solvent to replace carbon tetrachloride, eye protection for maintenance workers and laboratory technicians, plastic guards for circular saws, check valves to prevent oxygen from feeding into illuminating gas lines, straps to anchor pressure gas cylinders, barriers to keep trespassing children from dangerous places, removal of tripping hazards from offices. These samples reveal that every phase of physical and human engineering is involved.

In many instances new equipment or changes in procedure not only have reduced the possibility of injury but have made work easier and more pro-

ductive. This is one of the outstanding values of a prevention program. With the discovery of a safer way comes the finding of a better way.

In Yale Forestry School a circular table saw is used to cut wood specimens to accurate sizes for stress testing. A plastic saw guard was specified to protect the fingers of the operators from the saw blade. However, some wood could not be cut with the guard in place, for instance, a groove through a single ply of a laminated strip. A pusher block with gripping base was made in the university central carpentry shop. The block handle keeps every finger of the operator out of possible contact with the saw. When tried, it was found to increase the accuracy of the cut because of the uniform pressure provided. This vignette is a common experience that emphasizes an important by-product of accident prevention.

Results from the first full year of department operation are significant. The number of lost-time accidents decreased by 33 per cent. Days lost were reduced by 43 per cent. Much of this improvement in severity was due to prompter reporting to the medical department. Thus, slight injuries were treated properly and did not develop into infections or complications. A conservative estimate of the money value of days saved and reduced compensation payments approximated the entire yearly budget of the accident prevention department.

These direct money savings are an indication of the values, more difficult to estimate, conserved for educational and research use. Here is a powerful incentive for full cooperation from academic departments. There are never enough funds for research plans, from which may come immeasurable benefits. Academic departments are particularly sensitive to the values of individual knowledge and skills. They can be persuaded of the importance of constant attention to all prevention technics. They can have a profound influence on every aspect of the problem in the entire institution.

Because colleges and universities are organized primarily for the discovery of truth and the education of individuals prepared to use these truths for the benefit of society, elimination of human waste and preservation of human values are essential parts of sound operation. This work cannot be left to incidental and chance methods.



Sweeping the corridor.

**For custodial services
we can establish**

Work Load Standards

RAYMOND E. WAGNER

*Custodial Supervisor
State University of Iowa*

WORK LOAD STANDARDS FOR CUSTODIAL services can be established and, in one instance at least, they have proved successful from both the university's and the employee's point of view.

Consulting firms can be hired to come into the institution, set up a work-standards program, and put such a program into operation. This procedure has the advantage of utilizing competent engineering talent and aides and of getting the job done on an institution-wide basis in a minimum of time. Often the custodial supervisor could benefit by such consulting services to aid him in organizing his work. It is expensive, but the institution gets its money's worth in more efficient operation.

The chief disadvantages, other than expense, usually arise out of the fact that the consulting firm cannot always follow through, with the result that the program may not be adjusted fully to the needs of the institution, is not always fully sold to those who have to use it, and becomes in fact a "one-time" evaluation, whereas a successful work-standards program must be continuously applied and evaluated if it is to be successful. If a consulting firm is used it would be advisable to recall its services period-

ically for a few years to follow through on recommendations made.

At the State University of Iowa, we have developed a program of work standards for our custodians, which, while not as elaborate or as statistically complete as one would expect to get from a consulting firm, has been successful and could be easily adapted to use in other institutions. Formulas can be developed as a basis for arriving at a work standard, but these formulas have to be adjusted to fit the individual situation. In brief, our procedure has been (1) to develop a work schedule on a tentative basis for each job, (2) to observe the employee at work with such a work schedule as a guide, and (3) to adjust the work schedule, to train the employee in methods of doing his work, and to provide the necessary equipment so that the end result is a job well done by an employee who is doing his full share of the work.

LEARN BY EXPERIENCE

We have learned several things by experience which are worth while noting. In the first place, those developing the standards and observing the men at work must know the job to be done so well that they can perform any of the tasks as efficiently as

the standards call for. The only acceptable answer we have found to the statement: "It can't be done that way or that fast" is: "Let me try and see if it can be done." A demonstration in a proper friendly way may solve the problem. This know-how can be acquired either through long periods of actual experience or by specialized training either on the job or in custodial schools.

In the second place, there must be a feeling of understanding and confidence between employer and employee. The term "employer" is purposely referred to in a broad sense to include institutional administration as well as the immediate supervisors and work-standards technicians. If either the employee or the employer suspects that the other is not acting in good faith, a work-standards program cannot operate effectively.

The essential basis of work load standards is a work schedule. This has to be established on a tentative basis for each position. It is not too important that the original work schedule be perfect in every detail because changes will have to be made in it. However, there are many factors that obviously must be considered, and that will affect any work schedule, and they might as well be

taken into account from the very beginning.

The starting point is usually the average amount of square footage a custodian can be held responsible for maintaining. The square footage standard must be modified, however, by taking into account a number of other factors. One of these is the proportion of open and congested areas. Open areas include corridors, steps and entrance ways, gymnasiums, ballrooms and the like; congested areas include most classrooms, offices, auditoriums and other rooms with fixed seats, especially.

Another factor is the type of floor and the condition of the floor. Terrazzo, good composition, and smooth wood floors take much less cleaning time per square foot than does concrete, especially if it is badly cracked or pitted. Old warped, cupped wooden floors are time consuming, as are worn, bleached or cracked, and loose composition tiles.

Other factors include the amount of traffic, the kind and condition of walks and entryways just outside the building, the general weather conditions, and even whether the entryway is on the north or south side of the building. And don't forget the difference that open window or filtered air ventilation makes in the amount of custodial work to be done.

A good work-standards program assumes that the custodian has access to proper tools and equipment and knows how to use them effectively. The institution must determine the kinds of equipment and materials to be provided. If for some reason it is not possible to provide the "best" that is available, the work schedule must be adjusted to that situation.

The institution can insist on the most effective use of the equipment and material provided, however. This requires training in their use and care. At the University of Iowa we give this training to each custodian when he is first put on the job. About once a month we have a short course in housekeeping for all custodians at which time we work on improving various technics and keep our men informed as to new methods and new types of equipment that have been adopted.

A substitute for some of this training can be provided through attendance at custodial schools which are now being held in certain states during the summer months primarily for

Geology Building—Student Custodian: Joe Smith—Job No. 2: Date 4/1/55

	Time Begun 4:30 p.m.		Time Ended 6:30 p.m.		Time Taken 2 Hours	
	Time Begun	Time Ended	Actual Time Taken	Average Time Required		
Get cleaning equipment and to work area.....	4:30 p.m.	4:40 p.m.	10 Min.	10 Min.		
Room 301—Office						
3 desks, 5 chairs, metal shelves, wastebasket, congested and desks littered.....	4:40 p.m.	4:45 p.m.	5 Min.	5 Min.		
Room 302—Classroom						
4 long tables, 27 straight chairs, desk, wastebasket, metal shelves, row of cabinets along north wall. Blackboard cleaned with wet sponge. Storage room that isn't used much.....	4:45 p.m.	5:00 p.m.	15 Min.	15 Min.		
Room 303A—Laboratory						
3 tables, 2 chairs, stool, sink and counter.....						
Room 303—Classroom						
3 lab. tables about 12 feet long, 17 straight chairs, cabinets along east wall, slate sink, 6 filing cases..	5:00 p.m.	5:08 p.m.	8 Min.	8 Min.		
Room 304—Storage Room						
Long table and 2 chairs. Swept floor only. No dusting.....	5:08 p.m.	5:10 p.m.	2 Min.	2 Min.		
Room 305—Classroom						
6 lab. tables, 2 long tables, 20 straight chairs, 11 large cabinets..						
Balcony						
Long table, short table, 4 chairs, cabinet cleaned once a week. Not used.....						
Room 305A						
2 long tables, 2 chairs, lab. counter, cabinet.....						
Room 305B						
Desk, long table, 5 chairs, small table, filing case, metal shelves, numerous cabinets. Dusted this particular night.....						
Room 305C						
Darkroom, 2 tables, 2 chairs, cabinet, bookcase, slate sink.....	5:10 p.m.	5:31 p.m.	21 Min.	21 Min.		
Room 306—Classroom						
52 tablet arm chair seats fastened to floor mounted on six risers, sink and counter, 2 specimen cases, blackboard, 3 small tables, slide projector.....	5:31 p.m.	5:43 p.m.	12 Min.	12 Min.		
Room 307—Office						
Desk, table, 3 chairs, 2 filing cases, metal cabinets and wooden cabinets around 3 sides of room.....	5:43 p.m.	5:48 p.m.	5 Min.	5 Min.		
Room 206—Classroom						
3 12-foot tables, 24 chairs, blackboard, desk.....						
Room 206A—Office						
2 desks, 3 chairs, lavatory, wooden shelf.....						
Room 205B—Office						
3 desks, 3 chairs, table, metal shelves, wastebasket.....						
Room 205A—Office						
2 desks, 2 chairs, table, metal shelves, wastebasket.....						
Room 205—Hallway						
Long table, small table.....						
Room 204—Storeroom						
Swept only.....	5:48 p.m.	6:11 p.m.	23 Min.	23 Min.		
Room 207—Classroom						
20 desks, fastened to floor, 20 chairs moveable, long table, small table, blackboard.....						
Room 208—Office						
Desk, table, 3 chairs, typewriter table, filing case, index card filing cabinet on two sides of room....	6:11 p.m.	6:25 p.m.	14 Min.	14 Min.		
Empty wastebaskets in ladies toilet, 2d floor, take wastepaper to basement, put away cleaning equipment	6:25 p.m.	6:30 p.m.	5 Min. 120 Min.	5 Min. 120 Min.		
Survey taken by.....						
Date.....						

public school employees. Salesmen for certain products used in the house-keeping department also can be helpful in demonstrating how those products should be used and the results that may be expected.

After the tentative work schedule has been developed and training in skills and technics has been given, the next item of importance in setting up work standards is taking into account individual differences among the employees. These can be spotted by observing the employee at work. We have found it very much worth while to spend a full working day with each employee, seeing his methods and technics, and timing his activities. On the basis of these observations we have been able to set up a work standard for that employee on that job that becomes a guide to him and to us as to his continuing efficiency of operation.

During the course of observation, we invariably find many situations in which the employee can increase his production by changing his method of work, the sequence of jobs, or by the use of different materials and equipment. On these occasions it often is necessary for the observer to "prove" to the employee that the proposed way of doing things is actually a better way. The observer himself must be able to "produce" if his suggestions are to be accepted with full confidence that they do offer an improvement over the employee's old way of doing things.

Obviously, all persons do not work exactly alike, and occasionally it is necessary to alter the tentative work schedule to fit these individual differences among employees. That has caused us no problems once we are certain that it is better not to change the employee to fit the work schedule.

One question that always arises at this point is: "Can a work schedule be inflexible and still permit the employee to perform the work he is expected to do?" There must be some flexibility, of course. A sudden rain-storm causing flooded conditions, a special examination, an overflowing toilet fixture—these things are never scheduled, at least on a regular basis, and the custodian may become involved because of them.

Problems do arise when the custodian is asked to help out on work other than his own. These situations will vary with the institution. Our custodians are frequently asked to



Physical plant custodians at the University of Iowa, shown here in the process of scrubbing the corridor, wear gray uniforms with black ties.

move furniture from one room to another, to run errands, to accept and deliver parcels and special kinds of mail, and a hundred and one other things that our arrangements do not call for them to do. On these things we have to be firm—"the university has provided other means for getting these things done and the custodian simply will not accede to any request to help out." Is the Milton scholar ever asked to rush down to the business office to help get out the W-2 forms before the January deadline? No!

The going gets a bit rough occasionally when a department head wants to save a little bit on his budget by trying to get the custodian to move a roomful of furniture instead of calling the moving crew, but the custodian knows that settling that problem, too, is a function of his supervisor and reports it to him and lets him work it out with the department head. To that extent the department head learns that the custodian's work schedule is inflexible.

On the other hand, our custodians also are trained that one of their responsibilities is being helpful insofar as their proper functions are concerned and that the need for adhering to a work schedule is not an acceptable excuse for refusing to do a necessary job within the line of duty or within reason. Moreover, the custodian is taught that it is not his responsibility to decide whether his work schedule

is being overtaxed by these extracustodial jobs. He is expected to do the custodial work requested of him by his academic co-workers, and to report any problems that might arise as a result to his supervisor, whose responsibility it is to change his work schedule or to work out these matters with the academic department involved. Never should the department head allow his staff to interfere with the custodial schedule set in that building unless there is interference with the academic schedule. Of course, at the beginning of each school term the custodial schedule might have to be adjusted because of class changes.

The custodial supervisor and the custodian should never forget the prime purpose of their job, which is to assist in maintaining space suitable for the education of students.

Any effort to work out work load standards for custodial services requires cooperative action and the understanding of phases of the task undertaken. People must work together. There is perhaps no group of employees in any undertaking who are closer to those they serve than are the custodians. They are part of the institution itself and play an important part in the life of the students and faculty with whom they are closely associated. As important as work load standards are, they should never destroy these relationships.

A look into the future—

Layouts for Food Service

MARY K. BLOETJES

Professor and Department Head, School of Home Economics
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THE PLANNING OF APPROPRIATE AND adequate feeding facilities in schools, colleges, universities and similar institutions is a significant aspect of any building program. Increased building costs and the longevity of such feed-

ing facilities warrant the application of sound principles of plant layout in determining space allocations and equipment investments.

Noted authorities have stated that "the ideal procedure is to build the

layout around the product . . . thus achieving a plant that is completely functional."¹

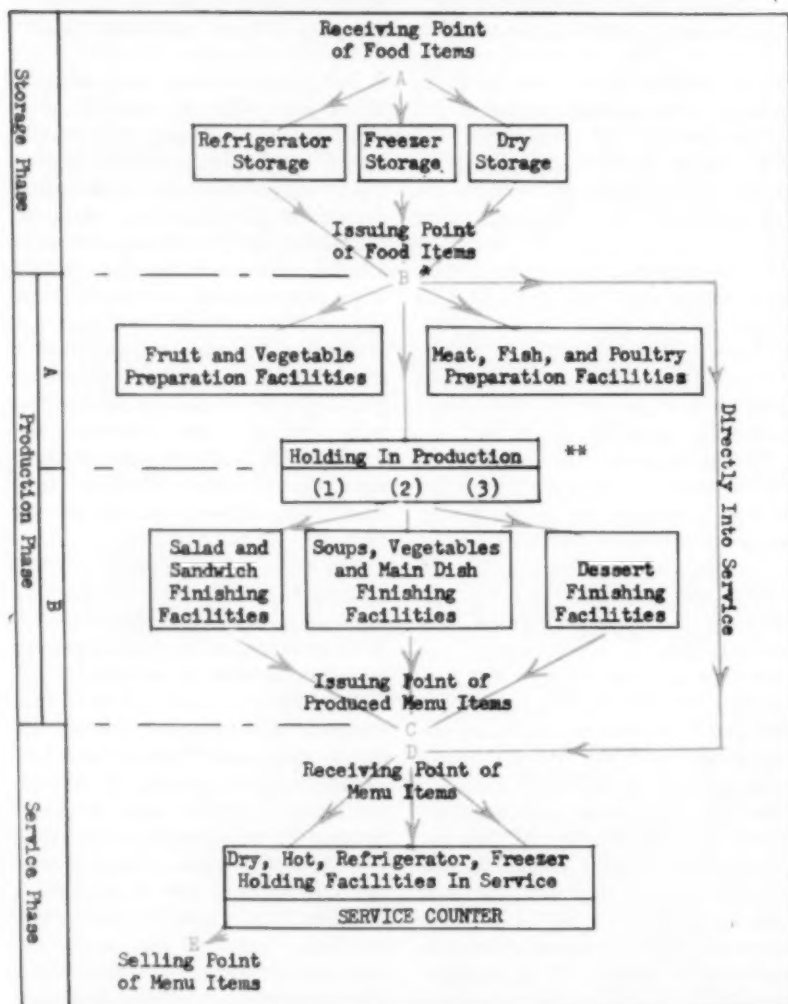
Thoughtful college administrators and food service managers will seek competent guidance in determining layout and equipment needs. They may be obliged to establish new or revised administrative policies in order to reach a sound basis for determining these needs. Such policies as determining the total number of meals to be served, the frequency of meal service, the type of the meal pattern, and other factors closely related to menu planning will be basic considerations in determining layout and equipment facilities required in specific building programs.

Quantity food service operations in many types of institutions are undergoing basic changes in their characteristics. There has been a transition in many of these institutions from the table d'hôte type of meal where several menu items were served for one set price to an à la carte type of meal where selection from a variety of menu items is provided. Furthermore, this selection from a variety of menu items has assumed a characteristic which we term the short-order type of menu item, one which usually is proportioned and individually finished in a short time period.

This transition from table d'hôte to an à la carte type of meal has been influenced to a large degree by the development of more detailed accounting practices in an attempt to get a closer correlation between expenditures for foods purchased and income from menu items produced and sold. Furthermore, there has been a trend to look at quantity meal production from a more industrial point of view, comparing it with that of a modern production factory.

Production principles that have been developed in the field of industrial

SCHEMATIC PROCESS CHART OF MENU ITEM PREPARATION

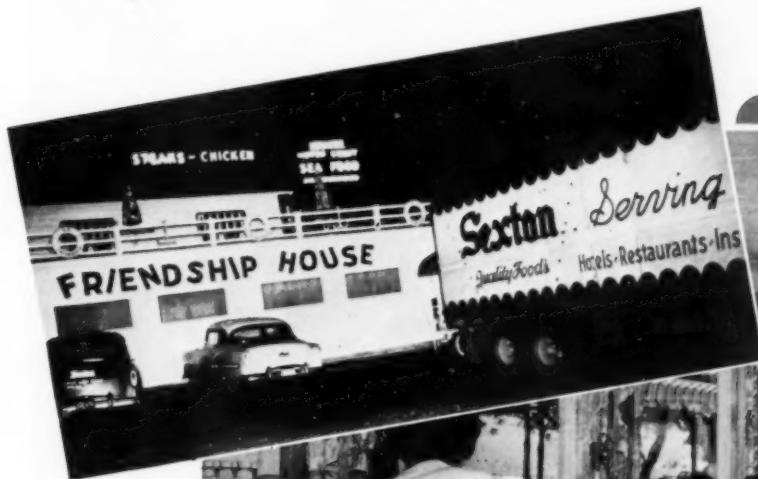


*Food items from storage phase may go through production processes (rice, green peppers, onions, etc., for Spanish rice) or they may go directly into service (tomato juice or ice cream).

** (1) (2) (3)—Refrigerator, freezer and dry storage facilities for holding goods during production.

Contented guests

Having savored a serving of a Sexton preserve or jelly, it is not unusual for a guest to comment on it—even to ask where it may be obtained. No thin, syrupy mixture this but the fullbodied essence of the plump, ripe fruit, blended only with crystal cane sugar cooked to an elegant consistency. A trial assortment from the great variety of Sexton jams, jellies, and marmalades and fruit butters will be an education in how so seemingly small a detail can mean so much in guest contentment.



Friendship House, Mississippi City, Miss.



JOHN SEXTON & CO., CHICAGO, 1955

Vol. 19, No. 2, August 1955

Sexton

Quality Foods

engineering have been applied to quantity meal production in those organizations where only a limited number of menu items are produced. The development of frozen meals by the frozen food industry is an example of this engineering application.² Production line processes have been applied and production control procedures have been instituted in these large factory kitchens.

Food service operations in colleges and other comparable institutions may be compared with this factory kitchen. Such comparison clearly indicates that the college kitchen is a complex factory producing a large variety of menu items and a variety that usually is not repeated at regular or daily intervals. Such variety and lack of repetition of production further complicate the management procedures involved. It is this complication that warrants detailed appraisal so that we may recognize trends in menu planning that have influenced the production processes, and thus guard against the excessive allotment of space and the purchasing of unnecessary food equipment.

In addition to this change in menu planning from a table d'hôte to an à la carte type of meal and the modification from producing all menu items in quantity to producing more short-order menu items, technological changes have taken place in the marketing of food that may influence the production processes inherent in the entire operation. These technological changes are concerned mostly with the frozen food industry, which has provided us with food items that are more nearly prepared to the finishing stage or to the stage at which they are eaten.

A recent article on kitchen planning states: "Kitchen design will need revision because of the different flow of work and altered work spaces required [resulting from the use of preportioned and precooked frozen foods]"³ Such preparation has eliminated to a large degree first-stage preparation steps, such as peeling, dicing, trimming and similar processes.

Considerations that are essential in planning layout and equipment requirements for college and institutional kitchens of the future are influenced by these changes in menu patterns, preparation methods, and technological marketing developments, and may be reflected in the establish-

ment of new administrative policies. These policies will determine whether the food service will be of a table d'hôte nature or an à la carte nature, whether it will be a short-order type of production, such as preportioned individually cooked hamburgers, or whether it will be a large quantity bulk type of menu item preparation, such as Spanish rice, which is portioned after the final preparation stage.

Of further significance is the complexity of the menu items to be produced. A menu item consisting of many ingredients frequently is used in institutional menu planning. It lends variety and selection to the menu. It should be recognized, however, that such a menu item is complicated in its preparation processes



and requires more detailed control records. The preparation required of each ingredient in this menu item involves time, labor, equipment scheduling, and cost calculations.

The influence of the foregoing factors on the amount of space and layout required in food service operations justifies a reduction in space previously allocated to food service operations, and particularly in those areas designated for the preparation of fruits and vegetables and for the butchering of meat. Furthermore, the trend in the short-order type of preparation as a result of à la carte service and as a method of controlling unnecessary menu item preparation has been reflected in the type of equipment needed in such institutions. Except in cases in which large quantities of bulk food preparation is the policy, the equipment may be more limited in size and may be placed closer to the service facilities.

In planning kitchens for the future, consideration of the use of completely frozen meals, which are currently under development in the frozen food industry, is warranted.² The use of such meals can materially reduce space requirements, unnecessary waste of food, unnecessary waste of labor, and can, furthermore, provide a more

accurate control of food costs since fewer food items are to be purchased, received, recorded, issued and processed.

The rapidly developing changes in food technology and marketing techniques that influence the layout space and equipment in quantity food operations focus attention on portability aspects of large equipment. Such portability lends greater ease to equipment changes as more completely prepared foods are introduced into the menu.

One cannot conclude a discussion of layout and equipment of food facilities without pointing out the great need for increased freezer and refrigeration facilities. The installation of such equipment, if placed in close proximity to the dry storage facilities of packaged and canned foods, will provide closer control over the issuing of all food items. In this manner, the issuing of fresh, frozen, canned or packaged goods may be centralized under one issuing head, thus reducing unnecessary food waste, excessive record keeping, and faulty production supervision.

The chart on page 46 illustrates in schematic form the phases that food undergoes during conversion from its purchased state to a menu item as it appears on the service counter. Such a chart indicates that storage facilities should be centralized and extended to include refrigeration and freezer space. It, furthermore, indicates that the provision of refrigeration, freezer and dry stores facilities for holding food during production is a logical and feasible arrangement if production control records are to be maintained with ease and simplicity. It will be noted that Production Phase A [(fruit and vegetable preparation facilities) and (meat, fish and poultry preparation facilities)] is undergoing restrictions in space and equipment as a result of new trends in food merchandising and may be eliminated in the future.

One needs to recognize also that a clear distinction of storage facilities should be provided for foods "in storage" as separate from those foods that are undergoing "production." The lack of recognition of this important layout principle has made adequate food production control and cost control the subject of much discussion and criticism in the field of food service management.

Just as administrative policies need to be established according to the type of meal that will be served (table

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$$I = AT\epsilon^2 - \frac{b_0}{T}$$



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d'hôte or à la carte), the type of menu item which will be produced (the short-order or the bulk type of preparation), and the complexity of the menu item (one ingredient or several ingredients), so do we need to establish budgeting and investment policies relating to the food service unit. With a more stabilized food supply and with increasing costs of building space, especially in metropolitan areas, the college administrator and food service manager will give serious thought to budgetary and investment policies which determine the amount of inventories of food items to be carried. Such policies have a direct relationship to the amount of space required for storage facilities, such as refrigerator space, freezer space, or dry storage space, and will enable the administrator or manager further to standardize purchasing procedures.

MENU IS BASIS OF PLANNING

The foregoing statements present general trends and principles as guidelines to the individual college administrator or food service operator. It should be remembered that the basis for all planning of feeding facilities is the menu and, more specifically, the complexity of the menu item and its method of preparation.

A detailed analysis of menu items to be prepared in any proposed plan for a food service operation should be made in advance of the building plans in order to justify requests for space and equipment that will support the feeding program satisfactorily.

Such analysis should be accompanied by proposed changes in the preparation phases that may occur as technological marketing trends advance. Such foresight will justify the elimination of both equipment and space as these trends become accepted practices of the particular institution.

The coordinated planning of the college administrator, the food service manager, and the food service consultant can do much to alleviate management problems and unnecessary expenditures for food service operations in the colleges and universities of the future.

¹Bethel, Lawrence L., et al.: Industrial Organization and Management, p. 226, McGraw-Hill, New York, 1950.

²New Chapter Heralded by Swift Rise of Complete Frozen Meals, Wall Street Journal, Feb. 4, 1955, New York.

³Tusler, Wilbur H.: Kitchens of the Future, Jour. A.D.A., October 1953, Chicago.



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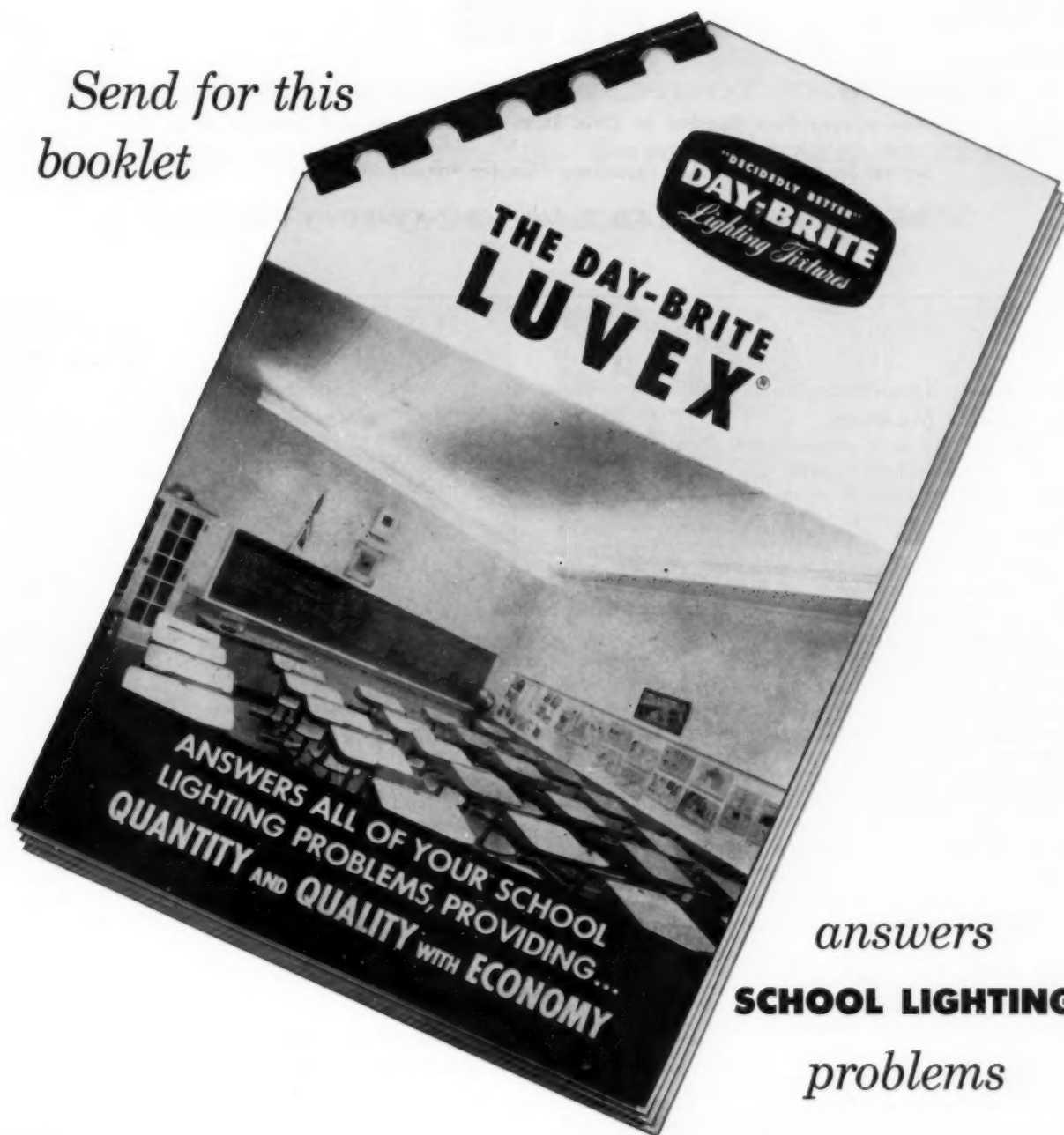
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NEWS

Nonresident Fees Boosted at Ohio State . . . Tests Aid Superior High School Students . . . New Insurance Plan for Faculty Members . . . Raise Retirement Benefits . . . New Parking Policy at University of Michigan

New Group Insurance for Faculty Members

HOBOKEN, N.J. — A new comprehensive group insurance plan for faculty members, believed to be the first of its kind, went into effect at Stevens Institute of Technology on July 1, according to an announcement by Dr. Jess H. Davis, president of the engineering college.

The plan provides \$10,000 of group life insurance for each full-time member of the faculty and payment up to the same amount of medical expenses incurred either by the faculty member or his immediate family.

The medical portion of the plan is intended to help meet the cost of long illnesses. It pays 75 per cent of expenses over \$500 or above those paid for by hospitalization and surgery insurance, up to a maximum of \$10,000.

Ohio State Increases Fees for Nonresidents

COLUMBUS, OHIO. — Ohio State University has increased its fees for nonresidents of Ohio in a move which, President Howard L. Bevis said, brought the university in line with similar increases in other state schools in and out of Ohio.

The board of trustees approved a new nonresident fee, effective with the autumn quarter, of \$125 per quarter as compared with \$85 under the current fee schedule. The university fee for Ohio residents, which includes nonreturnable laboratory fees, remains unchanged at \$63 per quarter. The \$125 to be paid by nonresidents will be in addition to the \$63 fee.

President Bevis said that the university's out-of-state fee has been low compared with that of similar schools in other states. Confronted with a growing problem of how to accommo-

date all the Ohio students who want to come to Ohio State "it seems no more than right that we ask those coming from other states more nearly to pay the cost of their education," the Ohio State president said.

End Segregation in Texas Graduate School

AUSTIN, TEX. — The board of regents abolished segregation in the Graduate School of the University of Texas and at Texas Western College, effective this fall, according to action recently taken and adopted at a meeting of the board. This was the first step of gradual removal of segregation throughout the university's vast system.

The board also adopted the resolution that it would abolish segregation in undergraduate courses of the main university in the fall of 1956.

Reports Decline in Women on Faculties

LOS ANGELES. — At the national convention of the Association of University Women in this city, Gertrude Houk Fariss, chairman of the organization's committee on status of women, reported that the status of women in the academic world is slipping backward.

"The percentage of women employed on faculties of higher education, after having crept slowly from the 28.1 per cent of 1939-40 to the 31 per cent of the mid-decade, took a much sharper drop by 1950 to 25 per cent," Mrs. Fariss said. She added that "the position of dean of women on the policy-making level of colleges and universities is rapidly becoming a memory of the past!" She added that only one woman to five men is the ratio of recipients of scholarships, fellowships and similar grants.

College Heads Are Urged at A.C.P.R.A. Meeting to Interpret Needs More Effectively

CHICAGO. — The nation's colleges and universities are faced with the challenge of doing a better job of interpreting their needs and contributions to the public and industry. This point was stressed here June 29 to July 2 at the American College Public Relations Association's annual meeting, attended by more than 650 public relations officers from institutions of higher learning.

Among the reasons given for this condition were the increasing dependence on the public and industry for financial assistance, the expansion of educational offerings, and the threat to academic freedom.

"There can be no solution to the problem of financing private colleges

and universities until there is a great increase in the quality of public relations," Howard T. Beaver, president of Beaver Associates, Inc., stated at a fund raising panel. He said the first step involves a critical examination of all the institution's publics, to be followed by changes necessary for public acceptance.

Industry was described in another seminar as taking an "honest look" into the problems facing the nation's educational institutions.

It was pointed out, however, that while corporations are interested in aiding colleges and universities, educational institutions must help by developing an atmosphere of mutual respect and confidence. "It's really a

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question of higher education and industry getting better acquainted," explained A. V. Wilker, trustee and director of the Union Carbide and Carbon Educational Fund.

The increasing importance attached to fund raising activities by colleges and universities was illustrated at the A.C.P.R.A. meeting by the formation of a special section devoted to the technical aspects of development and fund raising programs. The fund raising panels were part of 43 sem-

inars devoted to such public relations areas as community relations, news dissemination, publications, special events, adult education, and radio and television.

The 39th annual meeting was opened with a keynote address on the rôle of higher education by Harold C. Case, president of Boston University. He charged that educational freedom is threatened by a "conscious confusion of issues" and a "poisoned" system of communication. "Innuendo

unsupported by fact" and "generalizations from prejudice instead of inquiry" decrease the freedom of the individual and endanger the national security, he warned. Dr. Case said education must support differences of opinion and conviction if the democratic way of life is to survive.

Similar feelings were expressed by Clarence A. Schoenfeld, assistant to the director of the extension division of the University of Wisconsin, who said some "so-called 'public relations' practices are muzzling and muffling our colleges."

Too many college officials are saying "we must not ruffle any feathers," Mr. Schoenfeld stated. "This may be sound public relations for a department store or a barbershop, but it is arrant nonsense for a university." University public relations has two aspects, the Wisconsin educator said. They are: (1) being responsive to public whims, and (2) preserving those great traditions of free thought and free inquiry which are the hallmark of higher education.

College public relations officials were told to "lay it on the line" in dealing with the press when an adverse story breaks on the campus. The advice came from newspaper and public relations representatives participating in panel discussions relating to "newspaper and magazine publicity."

College public relations officials "have just as much of a responsibility to play fair with the press and public in adverse situations as they do in favorable stories," William P. Ehling, Syracuse University information services director, pointed out.

Trennie E. Easley, Bucknell University public relations director, and Allan W. Ostar, University of Wisconsin editorial services director, also emphasized the importance of dealing quickly, factually and honestly with representatives of mass media. Confusion and distortion usually are the result of silence or ambiguous statements by college officials, they added.

The association presented its award for distinguished service to education to the Council for Financial Aid to Education, Inc., in recognition of its achievement in procuring the support of business and industry for education. The association's award for outstanding achievement in public relations for higher education was given to Eleanor R. Collier, who is complet-



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ing her 25th year as director of the bureau of publicity of Boston University.

Officers elected to serve the association for 1955-56 are: president, Bradford D. Ansley, director of public relations, Emory University; president-elect, Lynn D. Poole, director of public relations, Johns Hopkins University; secretary-treasurer, James Jordan, director of information services, State University of Iowa; vice president for districts and membership, G. Duncan Wimpers, assistant to the president,

Colorado School of Mines; vice president for publications and association services, James W. Armsey, assistant to the chancellor for public relations, New York University; vice president for sections, John E. Fields, vice president, University of Southern California, Los Angeles.

At the meeting in Chicago, the college and university development officers of more than 75 of the nation's leading institutions of higher learning formed a section organization within the American College Pub-

lic Relations Association. The new section will exchange information and ideas through a periodic newsletter, and sponsor projects of mutual interest. Albert C. Van Dusen, vice president, Northwestern University, Evanston, Ill., was elected to serve as chairman.

The association will hold its 1956 convention at the Greenbrier Hotel, White Sulphur Springs, W. Va., July 8 to 11.

University of Michigan Sets New Parking Policy

ANN ARBOR, MICH. — The first step in a program for improving parking facilities in the main campus area of the University of Michigan was taken recently when the regents approved charges for parking in U.M. lots, effective October 1.

Taking action following a lengthy study of the subject, the regents decided on two types of charges:

1. Eligible persons may obtain permits to park in the main campus area but will be required to pay for the permit at a rate of \$25 for a calendar year, payable \$10 or more on October 1 and the balance at specified times during the year.

2. Meters will be installed on all university lots in the campus area not requiring a permit with rates of 5 cents for each two hours or 25 cents for all day. The metered lots will be open to nonpermit holders, visitors, students and others.

Charges for special permits not covering a year in length will be established on the basis of the length of time covered and the fee will be determined in each instance. Special parking privileges for those who come to the campus for institutes or conferences will be included in the registration fee with the amount to be determined by the length of the conference or institute.

Revenue from the permits and the parking meters will be sufficient, it is believed, to permit the start of construction of a parking structure during 1956 and the continuation of the program, it is hoped, will permit a gradual enlargement of the parking facilities on the campus.

The charge for parking permits and the use of parking meters will be limited to parking areas in the immediate vicinity of the main campus.

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No study has been given as yet to the use of permits, meters or attendants in the University Hospital area, although this matter will be given study as the next step in the program.

The question of making a charge for parking space in the campus area was the subject of discussion with a senate advisory committee representing the faculty and the program approved by the regents was recommended by this group. At a university senate meeting on May 23, a vote was taken of the membership in attendance, with 155 voting for a charge for a parking permit, 146 for meters, and five who voted for neither.

Receive Diplomas With Michigan's Name-Change

EAST LANSING, MICH. — The official change in name from college to university was effective for Michigan State on Friday, July 1.

Legislation authorizing the name-change was adopted earlier this year by the Michigan legislature. It calls for the full name of Michigan State College of Agriculture and Applied Science to be changed to Michigan State University of Agriculture and Applied Science.

Effective midway in Michigan State's 100th anniversary year, the new name appears on diplomas mailed out July 1 to the more than 1800 members of the 1955 graduating class. The centennial year graduates earlier had voted to receive the new name on diplomas after the official date. The graduation exercises were held June 5.

Ohio State Raises Retirement Benefit

COLUMBUS, OHIO. — Ohio State University's board of trustees has raised the university's supplemental retirement benefit from \$17 to \$37 per month for persons who retired prior to June 30. The supplemental benefit will be paid from the university's group life insurance premium reserve.

The board action rescinded supplemental retirement benefits for persons retiring on or after June 30 because of the "liberalized" retirement provisions made recently by the Ohio legislature in House Bill No. 744.

The trustees also raised the basic policy limit under the group life insurance program from \$5000 to \$7500

for "unclassified" personnel—including faculty and noncivil service administrative employees—and adopted an additional group life insurance plan for such members of the staff who are paid more than \$7500 annually. Under the new plan, the additional group insurance will be no less than \$500, with a maximum total set at \$20,000.

Pay of the persons affected by the insurance changes was increased, effective July 1, to cover the higher premium cost.

Gifts to Carleton Quadruple in Year

NORTHFIELD, MINN. — A total of \$2,224,270 in gifts was received by Carleton College during the fiscal year ending June 30, according to an announcement by President Laurence N. Gould in reporting the year's gifts to the executive committee of the board.

"This is by far the largest total in gifts Carleton has ever received in one year, and is almost four times the



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previous year's total of \$559,869," President Gould told the committee.

Included in the year's gifts is \$1,429,674 in additional endowment funds, of which \$1,313,000 was received anonymously for maintenance and operation of the new library.

Bequeaths \$400,000 for Student Health

ITHACA, N.Y. — A bequest of more than \$400,000 from a pioneer psychiatrist will help underwrite mental

health care for students at Cornell University.

Dr. Clarence P. Oberndorf left his residuary estate to Cornell "for the psychiatric treatment of students in the university."

The endowment will in part provide funds to operate the mental health division of the student medical service, one of the original psychiatric services on a college campus. Students receive comprehensive health care as part of Cornell's general services.

National Federation of C.U.B.O. Associations Holds Quinquennial Assembly

ESTES PARK, COLO.—At the conclusion of the First National Assembly of College and University Business Officers at the Stanley Hotel, Nelson A. Wahlstrom, controller at the University of Washington, was named president to succeed Irwin K. French, business manager of Wellesley College.

Representation of the various regional business officers associations at the meeting was as follows: Central 133; Eastern 44; Western 47; American 4; N.A.E.B. 11; Southern 14. Guests and speakers numbered 22.

The first business session of the assembly was keyed by Colorado's Gov. Ed Johnson, who complimented the business managers present in regard to the way they were meeting many of the significant and perplexing problems of student population, increasing costs, and fiscal control. Following his remarks President Irwin K. French reviewed the objectives of the Federation and briefly summarized some of the effective work it is doing.

At the first morning session Dr. Laurence M. Gould, president of Carleton College, and Dr. O. Meredith Wilson, president of the University of Oregon, spoke on the rôle of independent colleges and public institutions respectively in formulating policies in meeting increasing enrollments. Dr. Gould stated that the first obligations of a college are to maintain its independence, to provide for diversity of instructional interests, and to emphasize quality in academic preparation. Dr. Wilson stated that higher education under public auspices must see to it that no one is denied opportunity for higher education who sincerely seeks it and is qualified to benefit by it.

R. B. Stewart, vice president of Purdue University, presided as chairman of the noon luncheon. He presented Dr. Lloyd Morey, president of the University of Illinois, in whose honor the luncheon was held. Dr. Morey urged delegates to concern themselves with competence in performance of their job, but at all times to be sympathetic to the many problems that continually are faced by college administrative personnel.

The afternoon session presented the investment philosophies of college



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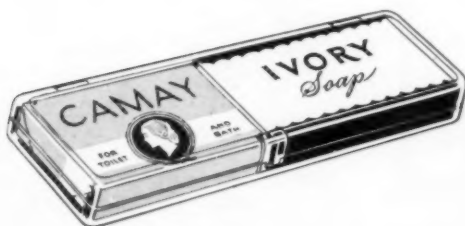
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executives from the Atlantic and Pacific coasts and the Middle West. Boardman Bump, treasurer of Mount Holyoke College, J. Parker Hall of the University of Chicago, and Robert M. Underhill of the University of California presented specific suggestions and recommendations relative to investment practices on the basis of today's stock market. The speakers took occasion to mention specific stocks and companies that should be considered by investment committees.

At the Tuesday morning session, George F. Baughman, vice president of the University of Florida, moderated the program on physical plant utilization and expansion with an address by Donovan E. Smith of the University of California on "Utilization of Existing Plant."

Arthur S. Adams, president of the American Council on Education, took occasion at the Tuesday luncheon to congratulate the college business officers on the leadership they had shown

and to commend them in their efforts of coming together to present a "united front" as participants of the Federation's first assembly.

Afternoon sessions were devoted to a report by William T. Middlebrook, vice president of the University of Minnesota, on "Big Ten—University of California, Unit Cost Study" project. This presentation was followed by the discussion of the "60 College Cost Study" under the direction of Nelson A. Wahlstrom of the University of Washington, and Walter F. Vieh of Cresap, McCormick & Paget, consultants.

Official sessions of the assembly terminated at the evening banquet with an address by Dr. Alvin C. Eurich, vice president of the Fund for the Advancement of Education. Speaking on "Academic License in Management," Dr. Eurich urged the use of management surveys as a device to determine many economies in administration. He also suggested the cooperative pooling of common services with other institutions, such as libraries and special maintenance staffs, and extensive sharing of faculty dealing in expensive teaching fields. He urged the elimination of recreational "frills" for students in order to reduce expenses.

Special Tests Aid Superior High School Student in Transition to College

NEW YORK. — The College Entrance Examination Board recently announced a program of 12 advanced placement tests which will enable colleges to grant advanced course standing and credit to students admitted with superior high school training. The tests, which have been developed experimentally during the last three years by the School and College Study of Admission With Advanced Standing, will be regularly administered by the college board for the first time during the week of May 7, 1956.

Addition of the special tests to the college board's national program of college entrance examinations was made possible by a grant of \$50,000 from the Fund for the Advancement of Education, sponsor of the School and College Study of Admission With Advanced Standing and other experimental efforts to coordinate the objectives and procedures of secondary

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NEWS

schools and colleges. These projects have included the School and College Study of General Education, which explored the possibility of combining school and college curriculums to produce a continuous educational process, and the Program for Early Admission to College through which a number of colleges admitted carefully selected scholarship winners who had not completed the full high school course.

With the addition of the advanced placement tests, the college board will provide a program of tests that makes it possible for colleges to grant early admission, regular admission, and admission with advanced standing. This introduces a flexibility in the area of transition from school to college which serves the needs of students of different degrees of ability and academic preparation.

The purpose of the advanced placement tests is to encourage superior preparation of college candidates in the schools by providing means whereby able students can demonstrate their readiness for work more advanced than that regularly required in freshman studies. Before taking the advanced placement tests students will follow the customary procedure of applying for admission to college, taking any tests that may be required for admission, and receiving notification of admission or rejection. Whether or not the admitted student who then takes the advanced placement tests and gets a satisfactory rating on them will receive academic point credit equivalent to his proficiency, in addition to permission to start certain college studies at the sophomore level, will be determined by the policy of the college to which he has been admitted. The more basic question of whether or not a candidate will be considered for advanced placement of any kind can be answered only by the college he has decided to attend. Ordinarily candidates for advanced placement will have taken special school courses equivalent to freshman college courses, but any student may take any or all of the 12 tests by registering for them.

In accepting responsibility for the advanced placement test program, the college board expressed the belief that there is sufficient similarity in content and objectives in the beginning courses of its member colleges to make a single testing program useful to many of those which want to measure accom-

plishment in the traditional study areas. The tests will therefore be based on course descriptions prepared by examining committees to indicate the scope and content of the typical courses in each field which would be considered adequate preparation for more advanced study.

Each committee will be composed of six distinguished teachers, four from colleges and two from schools, who will be assisted by test specialists of the Educational Testing Service, 20

Nassau Street, Princeton, N.J., which will also administer the program for the college board. A research program will measure the effectiveness of the tests and provide interpretive materials for their use. An integral feature of the program will be a series of conferences between school and college teachers and administrators interested in the preparation of superior students.

The test scores of each candidate will be reported to the college which

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he will attend and to his school on a five-point scale ranging from "High Honors" to "Fail." These scores will be assigned by teachers of wide experience selected and assembled especially for this purpose and will represent their judgment of the candidate's test performance. The scores will not imply a commitment of any kind on the part of the college, which may wish to review the candidate's test work or consider other evidence of his eligibility for advanced standing.

By September 1, colleges will receive the scores, copies of the examinations, the candidate's test papers and answer sheets, statistical tables showing the score distribution of all candidates who took each test, and a form on which to report to the college board whether or not advanced placement and academic point credit have been granted. Schools will receive the same examination materials by October 1 with the exception of the candidate's test papers, which will be

supplied after October 15 if the schools request them.

The financial grant of the Fund for the Advancement of Education was made to cover the deficit anticipated during the first two years of the program's operation when the number of students taking the tests is expected to be less than 2000 each year. The fee for each test will be \$10 and students probably will take an average of only two tests. Detailed information on the program with descriptions of the fields of study covered by the tests and examples of the kinds of questions and written exercises they will include will be available to candidates, schools and colleges early in the fall.

NAMES IN THE NEWS

Alice Nelson, for 35 years director of Indiana University's residence hall system, was recently appointed executive director of residence halls at the university. She will be succeeded as director by George R. Olsen, present administrative manager. The changes,



Alice Nelson



George R. Olsen

according to J. A. Franklin, vice president and treasurer, are designed to relieve Mrs. Nelson from detailed managerial and operational duties to permit her to supervise planning of an expansion of the university's student housing program. The present residence hall system at the university consists of 75 buildings and 250 trailers, housing more than 6000 students. Mr. Olsen has been associated with the new housing program since his graduation from Indiana University in 1950.

James W. Whitehead, formerly director of the Greater New York area of the National Conference of Christians and Jews, has been appointed executive director of the Empire State Foundation of Independent Liberal Arts Colleges. He assumes his new duties on August 15.

Gilbert F. White, president of Haverford College, Haverford, Pa., recently submitted his resignation in order to accept appointment as professor of geography at the University of Chi-

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NAMES

cago. Dr. White's resignation at Haverford becomes effective January 1, 1956.

Edward H. Litchfield, dean of Cornell University's graduate school of business and public administration, was recently named chancellor of the University of Pittsburgh. Dr. Litchfield



Edward Litchfield

will succeed Chancellor Rufus H. Fitzgerald, who retired June 30. By action of the board of trustees Dr. Fitzgerald will become chancellor emeritus. He was also given ex officio status as a member of the board of trustees.

Dr. Beaumont A. Herman, superintendent of schools in Northbridge, Mass., has been named president of Western New England College, Springfield, Mass. He will assume his new duties September 16. Western New England College is the former Spring-

field Division of Northeastern University of Boston, offering courses in accounting, engineering, business, law.

Robert Eli Long, now serving with the State Department in Paris, will become president of Park College, Parkville, Mo., September 1.



Robert Eli Long

Dr. Long, a former faculty member at the University of Vermont, holds degrees in international affairs from Yale University. At Park College he succeeds **J. L. Zwingle**, who resigned in January to become vice president of Cornell University.

Fred R. Eckford, formerly controller and business manager of George Williams College, joined the business staff of Illinois Institute of Technology last month. His appointment was to the new position of manager of purchases with over-all responsibility for purchasing and central stores departments.

James A. Boyer, acting president of St. Augustine's College, Raleigh, N.C., and its dean since 1949, has been named president. His father, the late **Charles H. Boyer**, served St. Augustine's for more than 40 years and was dean for much of that time.

Lawrence Lee Pelletier, professor of government at Bowdoin College in Maine, was recently elected president of Allegheny College, Meadville, Pa. He succeeds **Louis T. Benezet**, who becomes president of Colorado College.

Anna L. Rose Hawkes, retiring dean of students at Mills College in Oakland, Calif., was elected president of the American Association of University Women for a four-year term at the association's annual meeting.

Albert F. Sise, formerly executive director of M.I.T. servomechanism laboratory, has been appointed personnel officer of M.I.T., and **G. Edward Nealand**, formerly manager of laboratory supplies, has been appointed director of purchasing, according to recent announcements by **Joseph J. Snyder**, vice president and treasurer of M.I.T. Simultaneous announcement was made of the appointment of **Henry W. Fitzpatrick** as director of defense laboratories at M.I.T. by **Adm. Edward L. Cochrane**, vice president for industrial and government relations at the institute. Mr. Fitzpatrick will succeed **Horace S. Ford**, treasurer emeritus of

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NAMES

M.I.T., who has acted as director since the laboratories were established in 1953.

H. Newton Hubbs, treasurer of Hobart and William Smith Colleges, Geneva, N.Y., has been named acting president of the colleges. He succeeds Alan Willard Brown, who resigned as president in order to accept appointment as provost and professor of English at Union College, Schenectady, N.Y.



H. Newton Hubbs

Frank D. Graydon, formerly budget examiner for higher education of the

legislative budget board in Texas, has been named budget officer for the University of Texas system.

Ernest S. Erwin, assistant business manager of Stanford University, will retire on August 31 after 36 years of continuous service as a member of the business staff of the university. In 1936 he was organizer and first president of the Western Association of Business Officers of Colleges and Universities. He was a member of the original committee working on the "Manual on College Business Administration," published recently by the American Council on Education.

Rev. William C. Gianera, S.J., 22d president of the University of Santa Clara and former dean at Loyola Uni-

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National Association of College and University Housing Officers

President: M. R. Shaw, Cornell University; vice president: F. C. McConnell, University of Texas; secretary-treasurer: Ruth N. Donnelly, University of California, Berkeley.

National Federation of College and University Business Officers Associations

President: Irwin K. French, Wellesley College; vice president: Laurence Lunden, University of Minnesota; secretary-treasurer: Nelson A. Wahlstrom, University of Washington.

Associations of College and University Business Officers

American Association

President: J. B. Clarke, Howard University; secretary: B. A. Little, Southern University.

Central Association

President: C. C. DeLong, University of Illinois; secretary-treasurer: T. N. McClure, Knox College.

Eastern Association

President: W. R. Hendershot, New York University; secretary-treasurer: Irwin K. French, Wellesley College.

Convention: Dec. 11-13, Chalfonte-Haddon Hall, Atlantic City, N.J.

Southern Association

President: George F. Baughman, University of Florida; treasurer: Gerald D. Henderson, Vanderbilt University.

Western Association

President: Gerard Banks, College of Puget Sound; secretary: Kenneth A. Dick, University of Idaho.

Canadian Association of University Business Officers

President: A. G. Rankin, University of Toronto; secretary-treasurer: E. A. Wilkinson, Hart House, University of Toronto.

Association of College Unions

President: Frederick Stecker, Ohio State University; secretary-treasurer: Edgar A. Whiting, Cornell University; editor of publication: Porter Butts, University of Wisconsin.

Convention: April 8-11, Purdue University, West Lafayette, Ind.

College and University Personnel Association

President: L. H. Glander, Michigan State College; secretary-treasurer: M. S. Hendrickson Jr., University of Colorado; executive secretary: Donald E. Dickason, University of Illinois. Permanent headquarters, 809 S. Wright St., Champaign, Ill.

National Association of Educational Buyers

President: D. R. Kimrey, University of Oklahoma; executive secretary: Bert C. Ahrens, 1461 Franklin Ave., Garden City, N.Y.

American College Public Relations Association

President: Francis C. Pray, University of Pittsburgh; executive secretary: Marvin W. Topping, 726 Jackson Place, N.W., Washington 6, D.C.

National Association of College Stores

President: Carl Birdwell, A&M College of Texas, College Station; executive secretary: Russell Reynolds, Box 58, 33 West College Street, Oberlin, Ohio.

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NAMES

versity of Los Angeles, has been named assistant to the president at the University of Santa Clara. Father Gianera thus returns to the school at which he spent more than 48 years as student, priest, educator and administrator, beginning with the year 1903. He had served as president of the University of Santa Clara from 1945 to 1951.

Jefferson Davis Blackwell, president of State Teachers College at Salisbury, Md., for 20 years, recently announced his retirement.

Harry M. Gross Jr., business manager, secretary and treasurer of Case Institute of Technology, Cleveland, died July 11 at 44 years of age. Mr. Gross joined the staff as business manager in the spring of 1948, was named treasurer in 1949, and secretary in January 1953.

Rev. Brother William B. Cornelia, founder and first president of Iona College, New Rochelle, N.Y., died July 5 at 70 years of age. He had

served as president of St. Mary's College, Halifax, Nova Scotia, from 1913 to 1937.

Josiah Willard Hayden, president of the \$70 million Charles Hayden Foundation, died recently in Arlington, Mass., from injuries suffered in an automobile collision.

The Most Rev. Joseph A. Hickey, O.S.A., former president of Villanova College (now a university), died July 9 at 72 years of age in Bryn Mawr, Pa.

Dr. Edward A. Sutherland, who founded Madison College in 1904 and served as its president for 42 years, died recently at 90 years of age. In 1892 he became president of Walla Walla College in Washington State and later established Madison College in Madison, Tenn. He gained national fame in 1914 as the college president, then in his 40's, who commuted 200 miles each week by motorcycle in order to study medicine and to earn his medical degree.

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Business Officer or Assistant—Fourteen years experience business manager, tax-supported and private institutions; desires change account administration situation; successful record, financial management, purchasing, personnel administration. Write Box CW 256, COLLEGE AND UNIVERSITY BUSINESS.

Business Officer—Experienced in all phases of college business management; MBA Degree, CPA; experienced teacher; relocate in South or Southwest. Write Box CW-265, COLLEGE AND UNIVERSITY BUSINESS.

Food Service Manager—Thirty years of age; married; food service administration training; experienced in starting new food units, enter-

ing, dormitory and college, union food operations. Write Box CW-264, COLLEGE AND UNIVERSITY BUSINESS.

Superintendent of Buildings and Grounds or Maintenance—Years of practical experience in all phases of buildings and grounds maintenance; present position nine years; available on short notice; age 53; in good health. Write Box CW-263, COLLEGE AND UNIVERSITY BUSINESS.

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College Food Service Manager—Young man or woman with some food background, preferably graduate of a restaurant or institutional management curriculum, wanted to take charge of dormitory kitchen feeding approximately 500 students; would supervise approximately eight regular and about twenty-five student employees; would work under the direction of director of food services who does central purchasing for whole college; would work with standardized recipes prepared by college dietitian; this position is under Civil Service and an appropriate examination would be given to applicants. Write Box CO-172 COLLEGE AND UNIVERSITY BUSINESS.

Food Service Director—Medium-sized university in midwestern metropolitan area; salary open. Reply to Box CO-173, COLLEGE AND UNIVERSITY BUSINESS stating education and experience.

The rates for classified advertisements are: 20 cents a word; minimum charge, \$4. (No charge for "key" number.)

Forms close 25th of month preceding date of issue.

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COLLEGE and UNIVERSITY BUSINESS

WHAT'S NEW

August 1955

Edited by Bessie Covert

TO HELP you get more information quickly on the new products described in this section, we have provided the postage paid card opposite page 80. Circle the key numbers on the card which correspond with the numbers at the close of each descriptive item in which you are interested. COLLEGE and UNIVERSITY BUSINESS will send your requests to the manufacturers. If you wish other product information, just write us and we shall make every effort to supply it.

Utility Truck Folds for Storage



A rugged steel frame standing on four easy rolling wheels gives strength and rigidity to the new Model D-90 Jan-I-San Utility Truck. A steel platform base easily transports cans, supplies and equipment of all kinds. The frame folds instantly for compact storage and is as quickly opened ready for use.

A detachable canvas bag with five bushel capacity is quickly attached to collect trash, waste paper, soiled linen or other items. Cleaning tools are carried on four utensil hooks below the push handles. The truck offers a compact, efficient unit for maintenance workers and can be stored in minimum space when not in use. **The Paul O. Young Co., Line Lexington, Pa.** (Inadvertently the picture of this utility truck appeared on page 64 of the July issue of *College and University Business* with the story on the piano carriers manufactured by the same company. Our apologies, Ed.)

For more details circle #614 on mailing card.

Heavy Duty Floor Treatment Is Fast Drying

Recommended for both hardwood and softwood, as well as concrete floors, Surfcoat is a new floor treatment with heavy duty properties which is fast drying. A complete floor finishing job can be completed in four hours, providing an extremely tough and abrasion resistant surface. The finish stands up under continuous hard wear for long periods without requiring refinishing. It is highly resistant to grease, oil, alcohol, ink, water and dirt and is easily cleaned. **Hillyard Chemical Co., St. Joseph, Mo.**

For more details circle #615 on mailing card.

Plastic Surfacing for Counter Tops

A new counter top and backsplash surfacing material is now available for installation in laboratories, kitchens, workrooms and other areas. Known as Curvatop, the material is preformed plastic with a smooth curve from work surface to backsplash. It is ready to install, is available in 25 1/2 inch widths, eight feet long, and in ten colors and patterns. It is easily and quickly installed without special tools. **Consoweld Corporation, Wisconsin Rapids, Wis.**

For more details circle #616 on mailing card.

Colorful Cabinets for Classroom and Library

Flexibility of arrangement is offered in the new line of colorful, attractive cabinets developed for classroom and library use. The use of standardized



dimensions, parts and finishes permits any desired arrangements of the cabinets. Scientifically selected colors make for cheerful, stimulating study and work rooms. All cabinets have a sage gray finish except for the hardboard sliding doors which are finished in coral, blue or yellow pastel shades.

In addition to their basic function of storage, the cabinets can be used in a variety of ways. They may serve as room dividers, mobile cabinets, supplementary work surfaces, and for reception rooms and offices. A cabinet on wheels, the Brunswick book truck also may be used as a two tier cabinet when placed against the wall. The cabinets are available in a choice of open shelves or doors, full or divided shelves, and four functional mountings: casters, legs, bases or wall mountings. The cabinets are ruggedly constructed and finished to stand up under school use. **Brunswick-Balke-Clender Co., 623 S. Wabash Ave., Chicago 5.**

For more details circle #617 on mailing card.

Mint Fragrance in Germicide-Deodorizer

The pleasant fragrance of mint is combined with germicidal properties and refined deodorizing action in Mintol, a new multi-purpose germicide. It is designed for use wherever a germicide is needed or where offensive odors are present. It has met the new "Use Dilution Confirmatory Test" on *S. Cholerasuis* in accordance with the current Food and Drug Administration Testing methods, according to the manufacturer. It dilutes economically for disinfecting or deodorizing. **The C. B. Dolge Co., Westport, Conn.**

For more details circle #618 on mailing card.

Model P-20 Floor Machine for Large Areas

Perfect balance for ease of operation is a feature claimed for the new Clarke Model P-20 floor maintainer. It is designed for use on floor areas from 12,000 to 20,000 square feet. A one h.p. motor supplies the extra power needed for all phases of floor treatment and maintenance, including such jobs as steel wooling wet floor seal and disc sanding. Maximum, quiet efficiency is assured through construction of the drive mechanism. The frame is reinforced aluminum alloy with non-marking bumpers.

The completely automatic dual switch is controlled by either or both hands and the machine stops when pressure is released. The fully adjustable tubular steel handle locks in any position in a 90 degree arc. Accessories available for the new machine include those for



scrubbing, waxing, polishing, steel wooling, rug shampooing, disc sanding and extra heavy duty scrubbing. **Clark Sanding Machine Co., Muskegon, Mich.**

For more details circle #619 on mailing card.

(Continued on page 68)

What's New . . .

Pressure Printing Makes Noiseless Typewriter

A slight tap activates a precisely calculated weight to operate the new Remington Rand Noiseless Typewriter. The



Pressure Printing feature cuts down noise to a minimum while the new machine maintains all the features of the previous Remington Noiseless Typewriters.

The machine has been completely redesigned in appearance and features finger-fit keys, cushioned to eliminate impact, the Perfect Positioning Scale for instant setting of identical margins and a simplified typebar. Maintenance and operation have been simplified and a pressure dial makes carbon copies uniform without extra touch pressure. Remington Rand Inc., 315 Fourth Ave., New York 10.

For more details circle #620 on mailing card.

Support Hanger for Baseboard Element

A new type support hanger for baseboard elements in radiation heating simplifies installation of Dunham equipment. The back section of Dunham Baseboard is nailed to ground strip on the studding. The new wire element hanger is slipped over the nails and the speed nut fastened to support the element. Enclosures and accessories are snapped on to complete the installation. A new flush back type baseboard has also been added to the Dunham line. C. A. Dunham Co., 400 W. Madison St., Chicago 6.

For more details circle #621 on mailing card.

Stains on Dinnerware Removed With Non-Toxic Compound

A new non-toxic stain removal compound has been introduced for use with both plastic and china dishware. Stained pieces are soaked in Dual-Dip and discolorations are removed without agitation, rubbing or scrubbing. Only a small quantity of the compound is required to make an effective de-staining solution in hot water or in water at room temperature. Dual-Dip is said to be harmless to dishes, easy on hands and odorless. The Diversey Corporation, 1820 Roscoe St., Chicago 13.

For more details circle #622 on mailing card.

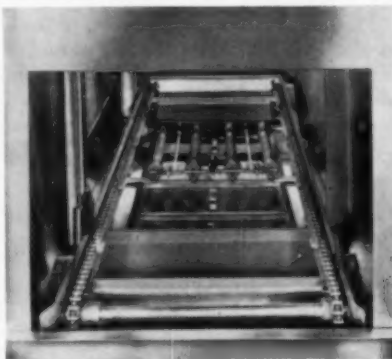
Microfilm Units Provide Flexible System

Model B.H.206 Reader and Model B.H.205 Recorder are units designed to allow the flexibility of microfilm recording in one location and reading at another. The reader is lightweight and compact for desk-top operation. It features a scanning mechanism with adjustment to read documents on 8, 16 and 35 mm film in any position for normal viewing. As many as 999 locations can be noted on 100 feet of film with the indexing meter incorporated into the reader. The recorder is easily moved and can be used anywhere desired. Both units are simple to operate. Burroughs Corporation, Detroit 32, Mich.

For more details circle #623 on mailing card.

Improved Conveyor in Redesigned Dishwashers

Described as all new, inside and outside, the Blakeslee door type dishwashing machines feature the advanced engineering design indicated by the conveyor illustrated. Made with stainless steel



tracks with stainless steel conveyor chains, the mechanism is built to stand up against corrosion caused by water softeners, dishwashing compounds or occasional careless cleaning of the machines. Conveyor chains have ni-resist conveyor lugs which pull dish racks into the machine and push them out onto the clean dish table. Lugs prevent operators from pushing racks through the machine too fast, with insufficient time for proper washing, rinsing and sanitizing of dishes.

The new line has other new engineering features for efficient operation and long life with minimum maintenance. All interior parts are constructed of stainless steel or ni-resist. Final rinse water is automatically turned off and on by dish racks tripping a sensitive lever in passing. An adjustable friction clutch in the conveyor mechanism eliminates any strain in case of jamming. The advanced engineering features are incorporated into all machines, including single and double tank automatic conveyor model dishwashers. G. S. Blakeslee & Co., 1844 S. Laramie Ave., Chicago 50.

For more details circle #624 on mailing card.

Solution Controller for Dishwashing Machines

The new Wyandotte Electronic Solution Controller for use in conjunction with the Wyandotte Hydro Feeder provides an efficient electronic unit for the control of dishwashing solution. It may be remotely mounted from the dishwashing machine and indicates the condition of the washing solution by colored lights. Wyandotte Chemicals Corporation, J. B. Ford Division, Wyandotte, Mich.

For more details circle #625 on mailing card.

Waste Disposers for Heavy Duty Applications

Four new powerful models have been added to the line of institutional Waste King Pulverizers. Designed for heavy volume food service, the units are capable of pulverizing up to 2000 pounds of mixed garbage per hour. Each of the four new models comes complete with all necessary controls and fittings and is designed to fit the needs and locations of most institutions. Given Mfg. Co., 3301 Fruitland, Los Angeles 58, Calif.

For more details circle #626 on mailing card.

Modernline Furniture Is Attractive and Comfortable

Adapted to modern school room architecture and classroom practices, the new Modernline school furniture is streamlined in design. The attractive furniture is designed for freedom of movement and flexibility of room arrangement. A tablet arm or desk top can be bolted to the metal frame of the basic chair, or arms may be added to make a teacher's or utility chair. The unique tablet arm is trapezoidal in shape and is mounted at the correct writing angle. Desks are available with open front book boxes or lift type lid.

The desk and chair illustrated are constructed of tubular steel and plywood



in a design which permits stacking of chairs. The furniture has metal parts finished in a choice of coral, blue-gray, turquoise or chrome for attractive, cheerful classrooms. Norcor Mfg. Co., Inc., Green Bay, Wis.

For more details circle #627 on mailing card.

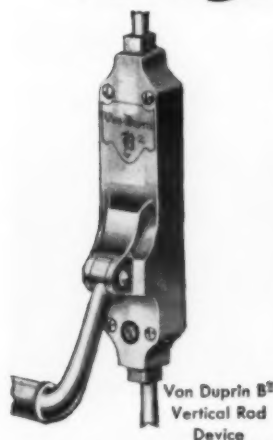
(Continued on page 70)

Von Duprin

FIRE AND
PANIC EXIT DEVICES



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Von Duprin B²
Vertical Rod
Device

● Here's the sort of treatment that Von Duprin exit devices absorb every day—year after year. And can they take it! Many of Von Duprin's devices have been in constant service for more than 40 years . . . with just normal maintenance. This durability, performance and precision design have teamed to make Von Duprin the preferred line of exit hardware. You can rely on Von Duprin to serve your daily traffic easily . . . and, most important, to be ready for that once-in-a-lifetime emergency. Von Duprin fire and panic exit devices—"the safe way out!"



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What's New . . .

Two Patterns Added to Floor Tile Line

Two new products have been added to the Uvalde flooring line. Azrock Terrazzo Tones offer new color-chip mottling which creates a terrazzo like effect. Azphlex Terrazzo Tones are an addition to the company's line of vinylized greaseproof tile. Eight new colors are offered in each of the new tones. Azrock Products Div., Uvalde Rock Asphalt Co., Frost Bank Bldg., San Antonio, Texas.

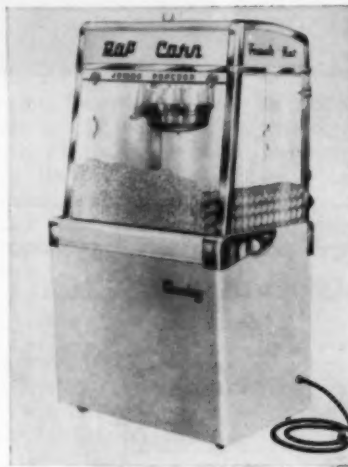
For more details circle #628 on mailing card.

Popcorn Machine Has Automatic Controls

Entirely new electrical controls provide automatic operation of the new Manley Vistapop popcorn machine. Kettle heat is automatically controlled within a few degrees, making every kernel of popcorn pop with maximum volume. Incorrect heat setting and current fluctuations, which give poor popping results, are eliminated. Popped corn is kept hot by heated forced air blown upward through the supply. Temperature of the air and of the popcorn in the warming pan is thermostatically controlled and the popped corn is heated evenly. The design and operation of the warming pan keeps popcorn crisp, even in humid areas.

A feature of the new machine is the

visual popping. The popping process may be seen through a $\frac{3}{8}$ inch thick Pyrex glass. The interior of the machine has 126 added square inches of working area, yet is the same width as earlier machines so that it will fit into the same



floor space. The machine is easy to handle, seasoning is dispensed by a pump and the kettle is emptied by push button. The only hand operation is putting the popcorn and salt into the kettle and filling boxes or bags. Manley, Inc., 1920 Wyandotte St., Kansas City 8, Mo.

For more details circle #629 on mailing card.

(Continued on page 71)

Institutional Vacuum for Light or Heavy Cleaning

The E-200 institutional vacuum cleaner is suitable for all jobs, from the heaviest volume wet or dry pickups to the lightest vacuuming or blowing. The E-200 is extremely portable and is mounted on four large free-turning casters and moves easily in any direction. A full range of attachments is available for the vacuum cleaner. Multi-Clean Products, Inc., 2277 Ford Pkwy., St. Paul 1, Minn.

For more details circle #630 on mailing card.

Steel Shelving for Every Need

More than a thousand different combinations are possible with the new line of SPS Hollowell Steel Shelving. Available with or without sides and back, the shelving can be used in classrooms, libraries, offices, gymnasiums, locker rooms and wherever storage is needed. The precision manufacturing of the Hollowell shelving parts permits exact fitting to form shelves for specific spaces and needs.

Shelves can be bolted side by side for any desired length or back to back. All bolts and nuts are cadmium plated to protect against corrosion and the shelving is finished in baked green enamel. Shelves are of 18 gauge steel. Standard Pressed Steel Co., Jenkintown, Pa.

For more details circle #631 on mailing card.

HOW TO END LEAF and MOWING PROBLEMS . . .



This is the MULCH-VAC 25 hp model. It vacuums up, cuts into fine mulch and returns leaves to ground in a single fast operation. Tractor drawn, 6'5" pickup cleans up to 30 acres in 8 hr. day. Attachments for loading leaves available for this model. Stones, heavy twigs, bottles and similar foreign materials that would damage most equipment will not enter this machine. Write for list of colleges and universities using MULCH-VAC.



➡ This is the 6 hp MULCH-VAC, the self propelled model so popular for localized leaf and litter removal jobs—available with bag, suction hose and SNOW removal attachments . . . and

NOW AVAILABLE WITH THIS NEW MOWING ATTACHMENT ➡

employing a revolutionary but tested and proven principle using Cutting Blades on a V-Belt, the

RIBBON-CUT MOWER

Cuts grass smooth, even, fast . . . wet or dry with full 33" wide cut.



Write for complete information today to ATWATER-STRONG CO., Atwater, Ohio

PHONE ATWATER 7-2344

What's New . . .

Automatic Machines for Flake-Ice Production

A new line of ice making machines has been developed by Carrier Corporation for every need. Two new large-capacity automatic ice-making machines recently introduced are designed to produce one to two thousand pounds of flake-ice a day. A chip-ice machine with a capacity of 500 pounds a day is also available. The Flakemasters are available with standard storage bins of 500 pounds capacity with either two or three access doors. They range between six and eight feet in height when mounted on standard bins and are produced in a range of standard voltages for easy installation. The Chipmasters have bins of 250 pounds capacity but custom-made bins may be had for greater storage needs.

The new machines are added to the Carrier Icemaker line producing cubed or crushed ice. Individual machines located in each building or department make supplies of flaked or chipped ice readily available at place of need. **Carrier Corporation, Syracuse, N.Y.**

For more details circle #632 on mailing card.

Flexible Furniture for Modern Classrooms

A new idea in school furniture for flexible classrooms is offered in Fleetwood Flexible Furniture. It incorporates the recommendations of educators and school planners and was designed by Henry P. Glass of the Chicago Art Institute. The units are exceptionally strong, yet light in weight and easily movable, making the classroom completely flexible.

Tubular metal frames and joints, wood panels and doors and high quality plastic tops are combined with classically simple lines and utmost utility. The furniture is readily adaptable to changing school needs and permits rearrangement and augmenting of classroom facilities to accommodate increasing enrollments. Room layouts are quickly adapted to specific teaching technics and objectives as all units are readily moved. The furni-



ture is sturdy, modern and attractive. Leg adjustment is provided to alter base unit height as required. **Fleetwood Furniture Co., 19 S. Water St., Grand Haven, Mich.**

For more details circle #633 on mailing card.

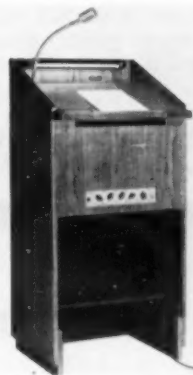
Cork-Surfaced Trays Reduce Noise

New Kys-ite cork-surfaced trays cut down noise and breakage. They are non-skid, reducing accidental spilling. The cork is molded into the plastic for permanence. Kys-ite trays may be washed in any manner as they are impervious to boiling. They are available in five sizes in red and brown. **Keyes Fibre Sales Corp., 420 Lexington Ave., New York 17.**

For more details circle #634 on mailing card.

Public Address System in Walnut Lectern

A complete public address system is built into a walnut lectern in the Davis Sound Lectern. The unit can be moved to any desired location, a single power cord plugged in, and when the amplifier is turned on the system is in operation. There are no separate amplifiers or loudspeakers, all elements being contained in the one unit with the microphone attached to the lectern top. The desk space of 24 by 15 inches gives ample space for notes and papers and



the 18 inch Lumiline light is built in.

The walnut lectern is attractive in appearance and sturdily built. The amplifier gives audience coverage of approximately 500 under average acoustic conditions. Sufficient power is supplied to add two additional loudspeakers if necessary to reach overflow audiences in remote rooms. Retractable casters for convenience of moving can be provided on request. **Davis Sound, 106 Main St., Madison, N. J.**

For more details circle #635 on mailing card.

Buttermilk Powder for Cooking and Baking

Cheflac is a cultured buttermilk powder made from country fresh sweet cream butter. It is inexpensive and is designed for use in baking and cooking to improve quality and flavor. It can be used in soups, sauces and gravies and has a controlled acidity. Cheflac is packed in sealed No. 10 and 14 ounce tins. **Webster Van Winkle Corp., 99 Summit Ave., Summit, N.J.**

For more details circle #636 on mailing card.

Troffer Panel System Speeds Construction

The TAC (Troffer-Acoustic) panel system is a new method of construction which is said to cut costs and save time.



The troffer and acoustical panels provide permanent long-span forms for concrete joist construction and an acoustically-treated ceiling with recessed lighting troffers. The light-gauge steel panels combine the functions of pan forms, acoustic treatment and fluorescent lighting troffers. They are each 24 inches wide. The acoustical panel is perforated and backed up with a non-combustible acoustical element. The troffer panel provides a housing for fluorescent fixtures and plastic diffusers for recessed lighting and flush ceiling.

The TAC panels need supporting at mid-span and ends only as forms for concrete. They carry no building loads after concrete is cured. Fire resistance ratings are based on the reinforced concrete structural system. Only finished flooring, paint and fluorescent fixtures need be applied to complete installation of the TAC panels. Ceilings can be washed or repainted as often as necessary without affecting the acoustical treatment. Use of the panels completes the structural floor for rooms above and the acoustical ceiling and lighting system for rooms below at the same time. **Detroit Steel Products, 2250 E. Grand Blvd., Detroit 11, Mich.**

For more details circle #637 on mailing card.

Laboratory Tops in Attractive Colors

Hamilton Laboratory Tops offer working surfaces of a special molded wood construction in gray, green or brown. Built up to 1 1/4 inch thickness with smoothly rounded edges, the tops are molded under high pressure to produce a tough, smooth material which is highly resistant to moisture, heat and abrasion while retaining the shock-absorbing, shatterproof properties of wood. The new tops are easy to fabricate and hold screws exceptionally tight. The same reagent-resistant qualities of earlier Hamilton tops are now available in the new colors. Other Hamilton tops include black Hamilcore, Hamilite and Soapstone. **Hamilton Manufacturing Co., Two Rivers, Wis.**

For more details circle #638 on mailing card.

(Continued on page 72)

What's New . . .

Mop Washer in Portable Unit

Mops can be cleaned in only a few minutes with the new Jet Stream Mop Washer. The unit is compact and portable, accommodating mops of all sizes. Old mops are freshened and new mops are prevented from souring with Jet Stream which can be used wherever there is a water outlet with a threaded hose connection. **Geerpres Wringer, Inc., Muskegon, Mich.**

For more details circle #639 on mailing card.

Controlled Darkening With Mackin Blinds

Precise control of darkness for classroom presentation of movies, slides and opaque projection is available in the new Mackin Visual Education Blind. Consisting of tenoned slats that fit snugly into a built-in metal molding and a vertical triangular brace which forces the slats tightly together when darkness is required, the blinds give control of sun and glare in normal use. Readily adaptable to all of the many varying light requirements in a modern classroom, the blinds are easy to operate and are constructed for years of trouble-free service.

The new blinds do not interfere with ventilating units or regular lighting and

cannot blow or bang in the wind. Slats are easily removable for washing. The blinds serve as an effective insulator and



do not occupy wall space beyond the immediate window area. They are available in a selection of attractive colors of slats and tapes. **Mackin Venetian Blind Co., Mokenca, Ill.**

For more details circle #640 on mailing card.

Double Wall Panels of Architectural Porcelain

Two types of Davidson Double-Wall Panels have recently been announced. Constructed of architectural porcelain, the panels can be used in any fenestration or spandrel system of curtain-wall design. Type A Panels are manufactured in sizes up to 12 square feet, from 1½ to 3 inches thick. Fiberglass insulation is used. Type C Panels are produced up

(Continued on page 73)

to 20 square feet in size with minimum thickness of 2½ inches. Special shrink-proof gypsum-base Vitroclak backing is used in addition to the fiberglass and air space for rigidity and additional sound insulation.

Architectural porcelain fused to steel makes the outer face of the panels with baked prime paint finish or porcelain enamel on the inside panel face. Aluminum, stainless steel or galvanized metal can be furnished as the finish. The panels are available in rippled, two-color, smooth, matte and luster effects. Walls of Davidson Double-Wall Panels are light in weight, can be erected swiftly and can be erected from inside. **Davidson Enamel Products, Inc., 1100 E. Kibby St., Lima, Ohio.**

For more details circle #641 on mailing card.

Lemon Pie Filling Added to Royal Line

Lemon flavor pie filling and pudding have been added to the Royal family of pie fillings. The new lemon pie is easy to make and the danger of failure through overcooking has been reduced to a minimum. Four formulas are shown on the label of the package for the new pie filling. **The Fleischmann Div., Standard Brands Inc., 595 Madison Ave., New York 22.**

For more details circle #642 on mailing card.



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...engineered for comfort
and strength

A 1051, upholstered;
wood armrests;
w. 29", d. 31", h. 29"

B 1061, armchair;
w. 27", d. 31", h. 29"

C 1041, armless;
w. 23", d. 31", h. 29"

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What's New . . .

Heavy Duty Floor Finish Has "Strip-Easy" Formula

A new formula for easy and fast removal has been added to Johnson's Heavy Duty Hard-Gloss Floor Finish. The self-polishing finish gives bright, safe floors with qualities for long wear. The tough film resists marring and scuffing, even with heavy traffic, does not water spot and requires no buffing. It is not a varnish, lacquer or wax and gives a high gloss. The new "Strip-Easy" formula permits quick stripping of the floor when necessary even after months of hard usage, when Wax-Strip Floor Cleaner and water are applied. S. C. Johnson & Son, Inc., Racine, Wis.

For more details circle #643 on mailing card.

Scaffolding Line Has Galvanized Finish

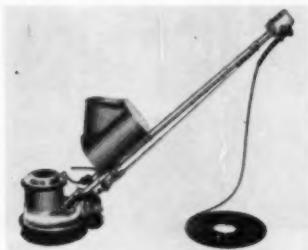
The entire Ezebilt scaffolding line is now available with galvanizing protection at no extra cost. All panels, braces and all component parts of the scaffolding are galvanized to protect against rust. The new finish provides a lubricating quality which speeds erection and dismantling of scaffolds. The new line will have a silver-golden hue due to the galvanizing, instead of the blue enamel paint used previously on the Ezebilt scaffold line. Universal Mfg. Corp., Zelienople, Pa.

For more details circle #644 on mailing card.

Rug Shampoo Machine for Institutional Use

Designed for one man operation in cleaning rugs in colleges and other institutions, the Kent K-11 Rug Shampoo Machine is light in weight and efficient in operation. It has a two gallon solution tank on the adjustable handle, with "Balanced-Power" offset motor designed for ease of steering. The machine can be operated close to moldings and furniture without splash and is easy on rug pile.

The 1/4 h.p. motor is fully enclosed, keeping out moisture and dust and ensuring long life and quiet operation.



The detachable handle is equipped with an automatic release safety switch. The machine can be used without the solution tank for scrubbing and polishing floors. The Kent Company, 736 Canal St., Rome, N.Y.

For more details circle #645 on mailing card.

Tubular Steel Bleacher Is Easily Assembled

No nuts and bolts are required to assemble the new Sico tubular steel bleacher. The new 2600 Bleacher is extremely portable as the use of tubular steel scaffolding design eliminates excess weight. The welded frames are interlocked by built-in coupling pins, thereby speeding and simplifying assembly.

Sico's patented "Speedlock" ties frames and sway braces into an integral unit, eliminating nuts and bolts and providing instant, safe locking of all supports. Sico Grandstands, Inc., 3565 Wooddale Ave., Minneapolis 16, Minn.

For more details circle #646 on mailing card.

Gallon Sized Blendor for Institutional Use

Designed for the high speed blending, pulping, mixing or reducing of foods, tissue, plant materials and other substances, the new Waring Commercial Blendor has a one gallon mixing capacity. It can be used for laboratory work for emulsifying and disintegrating materials. In quantity cooking the



Commercial Blendor quickly prepares special sauces, dressings, soups, beverages and other recipes.

The mixing container in the institutional size is of stainless steel in clover leaf pattern with a handle for easy pouring. The blade assembly is quickly removable for cleaning, and can be sterilized. Controls on the front of the stand permit instant change from one speed to another, higher or lower, without stopping the machine. The two section cover snaps on and a plexiglas section permits sampling, adding and viewing. Waring Products Corporation, 25 W. 43rd St., New York 36.

For more details circle #647 on mailing card.

Name Plates and Signs of Plexiglas

Desk and door nameplates and special signs made of Carrol Line Plexiglas are now available. The attractive nameplates and signs are available in a variety of transparent, translucent, opaque and fluorescent colors in many different styles. Marshall Plastics Co., 308 N. Morton, Okmulgee, Okla.

For more details circle #648 on mailing card.

Colored Cups and Plates in Dixie Star-Flower Design

A distinctive new design is offered in Dixie cold drink and hot drink cup items and Dixie plate packages. The



Brilliant Star-Flower design is available in new hues of red, green, yellow and blue for cheerful and bright table arrangements for special groups and for general use. The highly styled line offers matching paper cups and plates. The design was adopted after months of research and pre-testing. The Dixie Cup Company, Easton, Pa.

For more details circle #649 on mailing card.

Clamp Volt-Ammeter Is Pocket-Sized

A single, easily read scale for all ranges and functions is a feature of the new lightweight, pocket-sized Clamp Volt-Ammeter. Model 749 incorporates the Weston Cormag[®] self-shielded mechanism with spring-backed jewels, which is effectively shock-mounted within a Bakelite case. The design safeguards instrument accuracy and ensures daily service over long periods. Shatterproof Plexiglas is used in the scale window of modern wrap-around design. A convenient, positive action thumb selector switch operates the instrument. The neoprene covered clamping jaws are tapered for measurements in limited areas and have precision ground faces for positive contact. Weston Electrical Instrument Corp., 614 Frelinghuysen Ave., Newark 5, N. J.

For more details circle #650 on mailing card.

Rocket 12 Griddle Offers Fast Production

Troublesome hot and cold spots are eliminated in the new Hotpoint Rocket 12 Griddle which is capable of producing over 700 quarter-pound hamburgers every hour. The grid of the new griddle plate is 36 inches long by 18 inches deep and the entire grid area is usable for cooking. Two sectional heat controls permit the operator to use either side of the griddle independently. The Rocket 12 Griddle cannot be "killed" and pre-heats to 375 degrees F. in 7.7 minutes. Hotpoint Co., 227 S. Seeley Ave., Chicago 12.

For more details circle #651 on mailing card.

(Continued on page 74)

What's New . . .

"Electronic Supervisor" Saves Time and Money

The new IBM Central Control Systems operate as many as forty on-off functions wherever commercial 60 cycle power is available, without special control wiring. The system provides a simple, efficient means of automatically switching lights, starting and stopping motors, opening and closing valves, operating signal systems and many other functions. A unique electronic relay, coupled with carrier current, makes the system's performance possible without control wires to terminal units.

Conservation of fuel, water, electrical power and other resources and economy of operation are effected by the system which affords control of functions automatically from a central panel instead of individual control at the various sources. A Central Operations Panel, Transmitter and Coded Relays are the system's major components. Signals, initiated by the Central Operations Panel through the Transmitter, are transmitted to the Coded Relays in the system, providing the means of remote, automatic operation of electrical services. The Central Operations Panel permits checking at a glance the state of any remote electrically controlled services. The system is set for the required schedules and automatically maintains them at all

times. When necessary manual operation is possible. **International Business Machines Corp., 59 Madison Ave., New York 22.**

For more details circle #452 on mailing card.

Tablet-Arm Chair Has Sturdy Writing Area

A double tube front arm support ensures a stable, vibration-free writing



area on the new Westmoreland No. 182 and No. 183 TABR Tablet-Arm Chairs. The chair has tubular steel and plywood construction for strength and comfort. The wide leg spread minimizes tipping and protects walls. A large open book compartment under the seat provides

ample room for all needs. Rigid frame construction is assured by the extra welded support member under the rear of the seat.

The new chair is posture engineered for comfort and is made in sizes for high school and college classrooms. Tops, seats and backs are of solid hard maple with tablet arm also available in 13 ply plastic which is waterproof, scratch resistant and printproof. All joints are bronze-welded for strength and durability. Metal parts are finished in taupe, turquoise, coral, blue or nickel chrome for bright, cheerful classrooms. **Westmoreland Seating, Div. of Westmoreland Metal Mfg. Co., Milnor St. & Bleigh Ave., Philadelphia 35, Pa.**

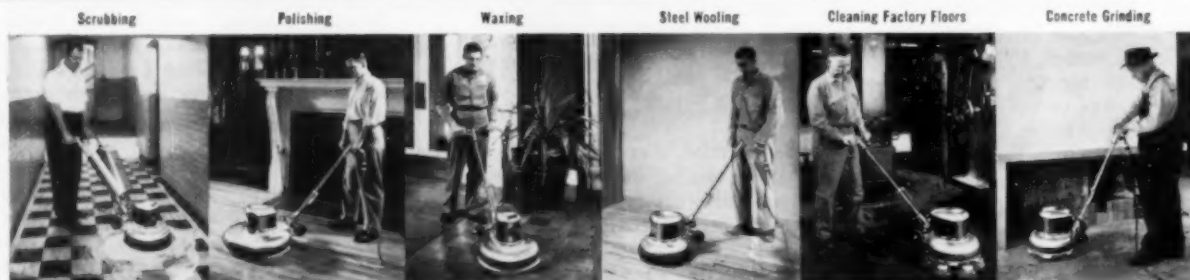
For more details circle #453 on mailing card.

Rubbermaid Shelving Prevents Slippage

A new type of shelving is available which is resistant to hot water, detergents and grease. Known as Rubbermaid Shelving, it is designed to lie flat without curling and has a ribbed surface design that prevents slippage and protects against breakage. It is available in widths of 11 1/4 inches in 60 foot rolls and in widths of 22 inches in 30 foot rolls. **Rubbermaid Commercial Div., The Wooster Rubber Co., Wooster, Ohio.**

For more details circle #454 on mailing card.

(Continued on page 75)



American Machines Save Dollars For Management ... Are Easiest To Use, Do More Work For You!



You'll be amazed at the difference in dollars saved, work saved, with the NEW No. 1 floor maintenance machine line . . . all-new American Machines for any floor, any rug, any budget! Ask for an on-the-job demonstration at no cost or obligation. Write . . .

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What's New . . .

Dishwashing Machines in Upright Door Type

Two new upright door type dishwashing machines are offered for use in small institutional kitchens. Each requires less than four square feet of floor space and has no pipes in the back. The machines are rated at 900 dishes per hour. Model HL is designed for straight through operation and Model HLC for corner operation.

Compact in design, the machines yet provide operating capacity for all types of dishes and small trays. The power wash features a double action revolving wash above and below the dishes. Other Universal features include electric timed wash and rinse control, electric or gas operated final rinse booster and stainless steel legs, panels and interior equipment. **Universal Dishwashing Machinery Co., Windsor Place, Nutley 10, N. J.**

For more details circle #655 on mailing card.

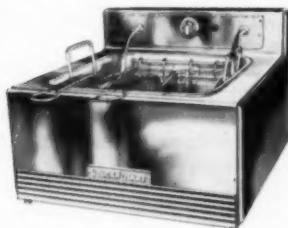
Chocolate Chip Flavor for Ice Cream

A slight chocolate tint and chocolate flakes throughout are the result when Gumpert's new Chocolate Chip flavor is poured into finished vanilla ice cream just before it is drawn from the freezer. Chocolate Chip ice cream is easy to make with the new flavor which is available in #10 tins and in quart size packings. **S. Gumpert Co., Inc., 812 Jersey Ave., Jersey City 2, N. J.**

For more details circle #656 on mailing card.

Electric Counter Equipment for Economical Cooking

The new Vulcan Hart Electric Counter Line is designed to cut food and labor costs in lunchrooms, coffee shops and other small food serving areas. Included in the line are electric griddles in three sizes with one piece steel griddle plates and thermostatic control of heat. The electric hot plate has three heats and a "Monotube" heating unit for fast start and even heat. Thermostatic controls maintain selected heat in the electric food warmers which have many top combinations. The electric deep fat fryer pictured is thermostatically



ically controlled and has a fat capacity of 15 pounds. All pieces are finished in bright chrome with red and gold trim. **Vulcan Hart Mfg. Co., 2006 N. Western Pkwy., Louisville 3, Ky.**

For more details circle #657 on mailing card.

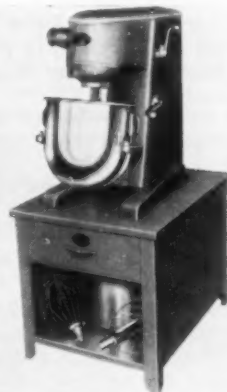
Heat Recorder-Totalizer Now in Portable Model

The Heat Recorder-Totalizer for checking the operation of a heating, ventilating or air conditioning system is now available in a portable model. The unit can be attached to the system and left to check its operation while the maintenance or service man is busy with other jobs. The indications on the tape that passes constantly through the instrument will give the complete operation record of the system. The portable model permits carrying the unit from one installation to another wherever it may be needed. **The Heat-Timer Corporation, 657 Broadway, New York 12.**

For more details circle #658 on mailing card.

Portable Mixer for Institutional Use

A tilted bowl to simulate hand whipping is a feature of the new type "N" 12 quart Portable Mixer. Changes of speed without stopping are possible



with the new mixer through the Variable Speed Drive and the single lever control simplifies operation. A ball-bearing thrust attachment hub increases the rate of production of the attachment which converts the mixer for food chopping. The new floor model features a storage type cabinet stand. **Triumph Manufacturing Co., 3400 Spring Grove Ave., Cincinnati 25, Ohio.**

For more details circle #659 on mailing card.

All-Purpose Oil for Food Preparation

Formulated for institutional use, Durkee All-Purpose Oil is designed to give perfect results for all baking, cooking or frying and as an ingredient for the preparation of salad dressing. A super-refined cottonseed oil, it does not transfer flavors in frying. Cold-resistant, the oil ensures blending of salad dressings under refrigeration. It has a high smoke point and retains its bland, sweet flavor in any use. It is packed in five gallon cans equipped with convenient, no-drip pouring spouts. **Durkee Famous Foods, Union Commerce Bldg., Cleveland 14, Ohio.**

For more details circle #660 on mailing card.

Wall and Floor Tile Now Available in Marble

Genuine quarried marble is now available in tile size for walls and floors. The result of years of research, the new



Markwa marble tile is competitively priced for budget construction and forms floors, wainscoting, walls and counter-tops attractive in appearance, quick and easy to maintain and practically indestructible. Attractive marbles in color and pattern are used for Markwa marble tiles which are available in eighteen varieties, permitting a large choice of color and pattern.

The new tile is germ and dirt resisting, fireproof and easy to keep clean and sanitary. The tiles are one-half inch thick, packed ready for shipment. Three sizes are available: 8 by 8, 8 by 12 and 12 by 12 inches. Markwa marble wall tile has a polished finish with cushion edges. Markwa marble floor tile is furnished with square edges and a matte finish. The new tile can be applied over painted plaster walls, over plywood, cement or concrete walls or floors with adhesive, and over any uniform concrete, masonry, cinder block or similar construction with mortar. **Vermont Marble Co., 101 Park Ave., New York 17.**

For more details circle #661 on mailing card.

Silicone Water Repellents Protect Masonry

Outside protection of above-grade masonry prevents water damage and moisture seepage. Linde Silicones are used in Masonry Water Repellent which is easily applied by spray or brush. The protective coating causes no change in appearance and ends spalling and cracking caused by freezing moisture. Driving rain cannot soak through and masonry is kept clean and free of streaks since water rolls off, carrying dirt with it.

The new silicone water repellents let no outdoor water in, while they do let indoor dampness out. The manufacturer reports that tests indicate silicone water repellents will remain effective for ten years. They can be used to protect new buildings as well as old, preventing damage to interior finish and reducing repair and maintenance costs. **Linde Air Products Co., Div. of Union Carbide and Carbon Corp., 30 E. 42nd St., New York 17.**

For more details circle #662 on mailing card.

(Continued on page 76)

What's New . . .

PIANO MOVING made safe!

For the movers
For the piano
For the floors



Model D-260
Grand Piano
Carrier

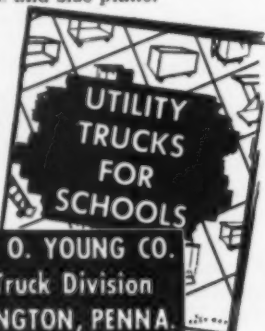
YOUNG PIANO CARRIERS



Model D-250 Upright Piano Carrier

- YOUNG Carriers move pianos without tilt or strain. Even with one man, personal safety to the mover is assured.
- Pianos moved without carriers soon go out of tune because of jars and stress. YOUNG'S carriers protect pianos completely.
- The 5" ball-bearing swivel casters used on YOUNG Piano Carriers have thick cushion rubber treads — safe for finest floors.
- Pianos can remain permanently on carriers. Playing is in no way affected. There is a carrier to fit every type and size piano.

Write
today
for free
catalog
S-48.



THE PAUL O. YOUNG CO.
School Truck Division
LINE LEXINGTON, PENNA.

Folding Stage Is Readily Portable

Easy portability and flexibility are features of the Wenger Portable Stage. Strong enough to support gym activities, the stages can be set up, moved or stored in a matter of minutes. Steel channel frames fastened underneath each section provide solid support and a large steel



channel extending the length of the section in the middle provides additional reinforcement. Individual sections are firmly held together with a new locking system. Any size stage may be provided. Wenger Music Equipment Co., Owatonna, Minn.

For more details circle #663 on mailing card.

All-Metal Roller Spreader for Line Marking

Athletic, traffic and safety lines can be printed with the improved all-metal, sled-type roller spreader used with the Universal Controlled-Flo Traffic-Line Paint-Striper. The printed line is sharp, clean and long lasting. Features of the new machine are marked mobility and quiet, easy operation, making it suited for line marking either indoors or out.

Maintenance requirement for the spreader is a can of kerosene or paint thinner for immersion when not in use. Paint is gravity spread and there is no power unit, making maintenance simple. It is available in five models, ranging in paint capacity from three to ten gallons, and can be used for marking black top, macadam, concrete, asphalt or wood. Line Marker Division, Universal Yonkers Corp., 30 Woodworth Ave., Yonkers, N. Y.

For more details circle #664 on mailing card.

High Quality Projector at Low Price

The new Model V-45 Viewlex 500 watt single frame filmstrip projector has all new features and is described as offering highest quality at lowest price. Features of the new precision engineered projector include a 5 inch Luxtar color corrected coated anastigmatic lens with 3 and 7 inch lenses available for use without any change in the optical system. The exclusive Viewlex Airjector and Venturi chimney forcing the hot air

away from the lamp are used to keep the projector cool during operation.

The V-45 is made completely of die-castings and offers simplicity in action. Motor and lamp control are individualized and controlled by separate switches. The Viewlex technic assures positive framing of pictures and the cooling system protects films during showings. Viewlex, Inc., 35-01 Queens Blvd., Long Island City 1, N.Y.

for more details circle #665 on mailing card.

Lighting Fixtures for Corridors and Utility Areas

Engineered to be joined snugly together, end to end, and to create a clean line of light formed with the units, "Modular Sightrons" are new lighting fixtures suitable for use in the corridors and utility areas of schools and other institutions. Designed for ceiling or wall mountings, the fixtures have injection-molded, pure white diffusers of polystyrene, with matching baked white enamel housings. "Modular Sightrons" are available with either two foot, 20 watt trigger start fluorescent lamp or with one or two four foot, 40 watt rapid start lamps. Lightolier, 346 Clairmont Ave., Jersey City 6, N.J.

For more details circle #666 on mailing card.

Sound Projector for Lighted Rooms

Films can be shown in lighted rooms, or rooms hard to darken, with the new TSI-Duolite Sound Projector. The 16 mm unit features a built-in screen permitting daylight viewing of either color or black and white films. The same projector can be used for regular projection on any standard type screen. The



flip of a lever converts the projector from one method to the other.

Films can be shown in a standard sized room on the Duolite Projector without darkening. It can be used for desk-top projection in meetings, administrative sessions and reviewing new films. The new unit is extremely portable and can be quickly set up for any use. Each projector has a standard 2 inch lens for standard projection and a wide angle lens for use with the self-contained screen. Technical Service, Inc., 30865 Five Mile Road, Livonia, Mich.

For more details circle #667 on mailing card.
(Continued on page 77)

What's New . . .

Teachers' Desks In Several Models

A new line of teachers' desks has been developed by Williams and Brower. The No. 5430-D Double Pedestal Desk illustrated has a 54 by 30 inch top and is available in oak or maple. It is 30 inches high and each pedestal has three drawers. A locking drawer in the knee



section controls all metal locking devices in the desk.

The line includes double and single pedestal desks, some with space for a typewriter stand, and a two-drawer desk with no pedestal. All are ruggedly constructed of selected hardwood, in oak or maple. Full mortise and tenon construction with molding around the bottom of panels gives them stability and strength. Frames are reinforced at lower rear corners with steel corner tenons. Drawers are dovetailed front and rear with hardwood veneer interiors. The desks are attractive, durable, and are available in sizes and arrangements to fit every need. Williams & Brower, Inc., Siler City, N.C.

For more details circle #468 on mailing card.

Oakite Highlight for Cleaning Food Equipment

Oakite Highlight is a new cleaner for use in the food service departments of institutions. Combining acidic and abrasive properties in one material, Oakite Highlight removes residues and corrosion from stainless steel and copper equipment and is effective in delaying the retarnishing of surfaces. Oakite Products, Inc., 19 Rector St., New York 6.

For more details circle #469 on mailing card.

Water Treatment Device for Boilers

The "Chemical By-Pass Feeder" is a water treatment device which avoids excessive feed pump wear. It was developed for use where water or boiler conditions do not justify the installation of expensive mechanical proportioning equipment to treat boiler make-up water. The unit can be used to add liquid or powdered water treatment chemicals on any hot water or steam generator, regardless of make. Cyclotherm Div. United States Radiator Corp., Oswego, N.Y.

For more details circle #470 on mailing card.

(Continued on page 78)

1st Step to LOWER FLOOR CLEANING COSTS



Floor-King
Mopping Outfit
for mops to 36 oz.

Make floor cleaning fast, easy and efficient the Geerpres way and watch costs drop. What's more, with Geerpres wringers, your mops last longer and do more work. Exclusive interlock gearing gives powerful but controlled squeezing action to force mop down and eliminate splashing. Wring a mop as dry as you please without twisting or tearing in a Geerpres wringer.

Ruggedly constructed Geerpres wringers are made from the finest materials for long life. Electro-plated finish on all wringers is exclusive with Geerpres. Yet they are light, compact and so easy to handle on ball-bearing rubber casters. Sizes and styles for every mopping need. Complete line of accessories, too. Write for complete catalog or see your nearest jobber.

GEERPRES WRINGER, INC.

P.O. BOX 658

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HOME MAKING LABORATORY AND ART ROOM FURNITURE

For more than sixty years Peterson furniture has set the pace for style and design. Peterson engineers and leading educators, studying together the requirements of school furniture under actual working conditions, have built into each piece of equipment a quality and workability that has made Peterson the leading choice of educators for many years.

Our representative will gladly assist in any problem you may have . . . or if you prefer, write on your letterhead for our illustrated catalog.

LEONARD PETERSON & CO., INC.

1228 FULLERTON AVENUE, CHICAGO 14, ILLINOIS

What's New . . .

Carrying Case for Key Duplicating Machine

A new carrying case for the Yale Keymaster key duplicating machines makes the Keymaster more easily portable to the key cutting job. The machine is bolted to the bottom of the carrying case and the two together weigh only 15 pounds. A supply of key blanks and repair tools can be carried within the case which has an easily removable top. The Yale & Towne Mfg. Co., 11 S. Broadway, White Plains, N. Y.

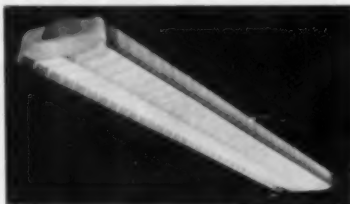
For more details circle #671 on mailing card.

Efficiency and Economical Costs Combined in Fluorescent Fixture

The new Scott line fluorescent fixture features one-piece all plastic shielding. It is designed for use in lunchrooms, offices and other parts of the institution and offers high efficiency with economical costs. A soft, diffused light is produced by the Scott as the entire fixture is luminous.

Only three major components are used in the Scott fixture—the channel, cover plate and one-piece shield. It is easy to handle and simple to install. The channel is of 18 gauge, cold-rolled steel, Bonderite treated for better paint adhesion and resistance to deterioration, with the one-piece shielding molded of

polystyrene. The hanging arrangement permits the shield to swing down from either side for maintenance, or it can be entirely removed for cleaning. The Scott may be surface or pendant mounted and provision is made for continuous row



installation. It is available in both rapid and instant start. Sylvania Electric Products Inc., 1740 Broadway, New York 19.

For more details circle #672 on mailing card.

Insulation and Ceramic Finish Combined in Duraface Foamglas

A new cellular glass insulating material combining both insulation and ceramic finish in a single unit is offered in Duraface Foamglas. A durable, impact-resisting surface is provided along with high insulating and moisture-proof qualities. The result of years of research, the product is produced in a single operation which provides the Foamglas insulation with a hard white crust three-fourths of an inch thick on the surface.

With the new material a wall is completely insulated and surface-finished in one erection operation. No finish coating is required and unsupported walls can be built of the blocks because of their rigidity and high compressive strength.

The completely inorganic material will not rot or deteriorate and is not affected by fungus. It does not provide food or nesting material for rats and other vermin and walls are easily washed down for sanitation and cleanliness. The material is resistant to nearly all chemicals as it is made of pure glass. The surface finish cannot peel or crack off, the material cannot burn and will not transmit fire. Pittsburgh Corning Corporation, 411 Seventh Ave., Pittsburgh 19, Pa.

For more details circle #673 on mailing card.

Superlite Gym Mats Are Easy to Handle

The new Superlite Gym Mats are made from plastic coated duck and are so light in weight that they are easily handled. The covering is washable, dustproof and moisture-proof and the filler is lightweight rubberized felt. The new lightweight mats are offered in four sizes: 3 by 5 feet, 3 by 8 feet, 4 by 6 feet and 4 by 8 feet, all 2 inches thick. Petersen & Company, Belfield Ave. at Wister St., Philadelphia 44, Pa.

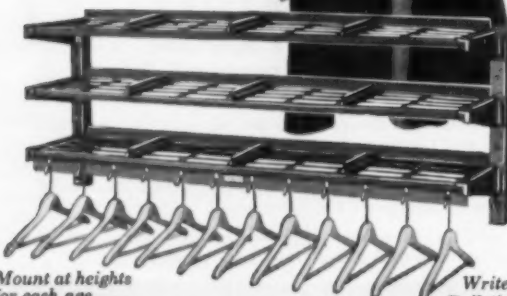
For more details circle #674 on mailing card.

(Continued on page 79)

VALET RACKS® AN EFFICIENT SOLUTION OF THE WRAPS PROBLEM

VALET mount-on-wall RACKS keep wraps aired, dry and exposed to light.

End crumpling of damp clothing in dark lockers. Save floor space—provide individual hat space and coat hangers for 3 pupils per sq. ft. Strongly built of heavy gauge welded steel with durable baked enamel finish. Any length by the foot—fit in anywhere. Standard equipment in strictly modern schools.



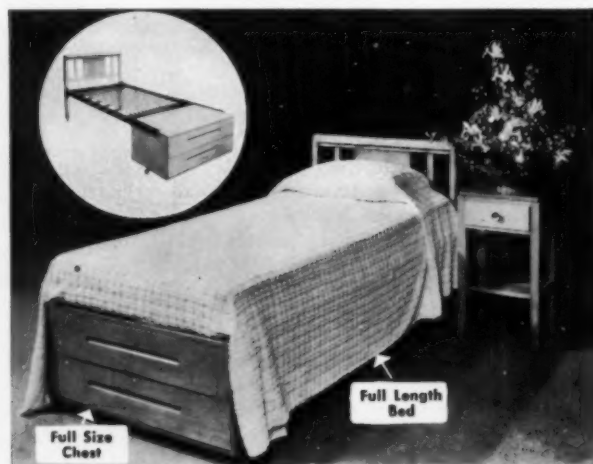
Mount at heights for each age group.

Write for Bulletin 1.

VOGEL-PETERSON CO.

"The Coat Rack People"

1121 W. 37th ST. • CHICAGO 9, ILL



NEW...TWO-IN-ONE DORMITORY CHEST BED

Ideal for use in dormitory room, where space is a factor. Bed is standard dormitory width, 3'0" x 6'6" with extremely durable and comfortable spring construction. Chest is 36" wide x 20" deep x 15" high—has two large, deep drawers. Bed ends and chest are made of solid Canadian birch, finest quality and finish. Mounted on rubber wheel ball bearing casters to facilitate moving.

FOR COMPLETE DETAILS
WRITE FOR
LEAFLET 1065DB

E-7

EICHENLAUBS

Contract Furniture

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ESTABLISHED 1913

What's New ...

Volt-Ohmmeter Is Pocket-Sized

The new Simpson Midgetester Model 355 is a Volt-Ohmmeter small enough to be carried in the shirt pocket. The ultra-compact self-shielding movement is designed to fill the requirements of a large variety of electrical and electronic servicemen. The small, light weight tester has high standards of quality. The Simpson Core Magnet Meter Movement and recognized accuracy and ruggedness are features of the new instrument.

The smooth plastic case surrounds the entire instrument with clear plastic over the front and a black plastic cover over the back. A pair of special test leads is furnished with each instrument for easy polarity indications. The plastic cover is easily held in one hand. It can be laid on any surface as it completely insulates the instrument from all outside contacts except those made with the test leads. **Simpson Electric Co., 5200 W. Kinzie St., Chicago 44.**

For more details circle #675 on mailing card.

Mobile Dish-Carts Are Versatile Units



Made from heavy gauge stainless steel, the new mobile dish-carts introduced by Fearless can be used for carrying food, dishes or supplies. They can also be used for dish storage, food display and for serving beverages and between meal snacks. They are supported by four 5 inch diameter casters with either all swivel or two swivel and two rigid. The top is cove-cornered for easy cleaning and sanitation, and is 21½ by 32 inches in size. The cart is small enough to pass through doors easily and to be stored under dish tables, yet large and sturdy enough to carry large quantities of dishes or food. **Fearless Dishwasher Co., Inc., 175 Colvin St., Rochester 2, N.Y.**

For more details circle #676 on mailing card.

Lightweight Floor Machine Is Explosion-proof

An explosion-proof vacuum cleaner for use where electric sparks are a fire hazard is now available. The machine can be used for wet or dry pick-up and has a totally enclosed, specially designed motor. **Hild Floor Machine Co., 740 W. Washington Blvd., Chicago 6.**

For more details circle #677 on mailing card.

Product Literature

- Answers to school lighting problems are given in **"The Day-Brite Luvex" booklet** offered by Day-Brite Lighting, Inc., 5451 Bulwer Ave., St. Louis 7, Mo. The quick-reference booklet covers problems of original lighting and relighting, offering quantity and quality with economy. Photographs of actual installations are shown, together with blue prints of ceiling layouts and information on equipment used and results achieved.

For more details circle #678 on mailing card.

- Complete specifications on light and heavy Chain Link Fencing are to be found in **"Planned Protection,"** a brochure available from Continental Steel Corp., Kokomo, Ind. The 44 page reference manual illustrates and describes ten styles of Continental Fence.

For more details circle #679 on mailing card.

- The 1955 edition of the **"Handy Soap and Synthetic Detergent Buying Guide"** is now available from the Industrial Department, Colgate-Palmolive Co., Jersey City 2, N.J. The pocket-sized booklet gives data on toilet and bath soaps, pumice and liquid hand soaps, packaged synthetic detergents, scouring cleanser, flakes and granulated soaps in bulk containers. Recommended uses, packaging and other information is included in the booklet which lists three new products added to the line this year.

For more details circle #680 on mailing card.

- Hundreds of color harmonies are offered in the **"Color Harmonizer,"** a new book designed as a guide to the use of color. Full page color chips of the 100 standard and intermix colors available in Quali-Kote are shown with two harmonizing colors readily visible for evolving decorative schemes. Designed to provide practical assistance in the development of color schemes, the booklet is available from The Sherwin-Williams Co., Painter-Maintenance Div., 101 Prospect Ave., N. W., Cleveland 1, Ohio.

For more details circle #681 on mailing card.

- The story of fluid dram or gear drive stokers is told in a 12 page catalog published by Erie City Iron Works, Erie, Pa. Photographs, cut-away sections and line drawings are used to illustrate the descriptive information presented on the single retort underfeed stokers. **Bulletin SB53** describes stokers designed to handle loads of 100 to 360 developed horsepower.

For more details circle #682 on mailing card.

- **Catalog F 6597**, released by Barber-Colman Co., Dept. 766, Rockford, Ill., contains complete information on the Uni-Flo square, rectangular and linear ceiling diffusers. Performance data, installation methods and dimension drawings are included in the 28 page catalog.

For more details circle #683 on mailing card.

- How to plan for lower maintenance costs is one of the factors covered in the 24 page booklet on **"Ceramic Tile for Schools and Hospitals"** offered by American-Olean Tile Co., 1118 Cannon Ave., Lansdale, Pa. **Booklet No. 600** shows how to keep buildings clean and attractive in spite of careless students and low budgets and carries several full color illustrations of actual institutions using tile in entrance halls, corridors, kitchens, cafeterias, washrooms, home economics departments, laboratories and locker rooms. The colorful, attractive installations facilitate cleanliness and sanitation.

For more details circle #684 on mailing card.

- The full story on **Luxout Light Control Draperies** is presented in a new catalog available from Plastic Products, Inc., 19th and Franklin Sts., Richmond, Va. Swatches of actual drapery material in seven colors are included in the catalog which presents data on NEA approval of the plastic draperies and their acceptance as flame resistant by the State of California. Architectural specifications, instruction sheet for ordering and how to install the draperies are other details included in the catalog.

For more details circle #685 on mailing card.

- **Efficient Equipment for Mail and Small Materials Handling** is the title of a catalog released by The Federal Equipment Co., Carlisle, Pa. Descriptive data and photographs of each item are included in the catalog as well as information on Federal's engineering and layout services available to schools and other institutions.

For more details circle #686 on mailing card.

- The value of wide-field three-dimensional magnification for various medical and biological laboratory studies is discussed in **Catalog D-15** published by Bausch & Lomb Optical Co., 635 St. Paul St., Rochester 2, N. Y. Three photographs in the brochure indicate the three-dimensional depth effect which can be observed through a viewer.

For more details circle #687 on mailing card.

- A new brochure entitled **"Window Glazing With Plexiglas"** has been released by Rohm & Haas Co., Washington Square, Philadelphia 5, Pa. The 16 page brochure discusses the various properties, characteristics and uses of Plexiglas and pictures some typical installations.

For more details circle #688 on mailing card.

- Precision timing instruments by Minerva are presented in **Catalog No. 255** issued by M. Ducommun Company, 580 Fifth Ave., New York 36. The Minerva "Unbreakable Coil Spring Mechanism" is discussed in the catalog and uses for Minerva Stopwatches in sports, medicine, engineering, research and other areas are discussed. Complete descriptive information on the full line is given and each item is illustrated.

For more details circle #689 on mailing card.

(Continued on page 80)

What's New . . .

• "Vision and Learning in the Modern School" is the subject of the first chapter of a 40 page booklet by Dr. Darell B. Harmon, consulting educationist, published by The Wakefield Company, Vermilion, Ohio. The first half of the booklet deals with the Harmon report of experiences, beyond recognition of detail, from which communication and learning are derived in schools, and establishes criteria for judging a classroom's environment. Facts on the Wakefield "Photo-Metric" broad-area lighting development and its application to problems in vision, posture and learning are presented in the last pages of the booklet entitled "Wakefield Lighting—as Flexible as Your Classrooms." Educators and architects with particular interest in illumination and those concerned with classroom planning will find the booklet informative and helpful. Drawings and photographs illustrate the editorial type text of the book.

For more details circle #690 on mailing card.

• The advantages of well designed steam cooking equipment are discussed in a flyer released by The Cleveland Range Co., 3333 Lakeside Ave., Cleveland 14, Ohio. Entitled "15 Reasons Why," the illustrated flyer points out construction features and things to look for when buying a steamer for the institutional kitchen.

For more details circle #691 on mailing card.

• "Everything AND the Kitchen Sink" is the title of a 160 page book, bound in hard boards, and published by Farrar, Straus & Cudahy, New York, at \$4 per copy. It tells the story of American industry during the past century and how it has completely revolutionized American life by constantly seeking for better ways to do things. Written by Philip Lesly, the book was sponsored by Crane Company, Chicago, in commemoration of its centennial.

For more details circle #692 on mailing card.

• "Specifications for Using" Satin Luminall and Luminall One Coat Light-Reflecting Paint for Interior Surfaces are offered in two folders prepared by National Chemical & Mfg. Co., 3617 S. May St., Chicago 9. Information on the products and their uses includes light reflection factors, coverage, cleanability, surface preparation and treatment and data on the various methods of application.

For more details circle #693 on mailing card.

• A Manual on Daily Maintenance of Public Washrooms has been announced by Huntington Laboratories, Inc., Huntington, Ind. The brief, easy-to-follow manual was designed especially for institutional use. In addition to a step by step daily schedule chart, a maintenance schedule for weekly washroom care is also included.

For more details circle #694 on mailing card.

• The story of bell-tone structure and bell tuning is told interestingly in a 16 mm color film, "Mission of the Bells." Narrated by Milton Cross, the film is available from Schulmerich Carillons, Inc., Sellersville, Pa.

For more details circle #695 on mailing card.

• The No. 55 Catalog of Maps, Globes and Charts issued by Denoyer-Geppert Company, 5235 Ravenswood Ave., Chicago 40, carries a reproduction of a new relief-like map of the United States in full color on the cover. The 66 page booklet shows a grade-by-grade correlation of sustained use visual aids, a three-step program of map, globe and chart use, elements of the graded program, a series of relief-like maps and a series of new products developed during the past year. The catalog has full-color illustrations and is indexed for quick reference.

For more details circle #696 on mailing card.

• The facts behind slippery floor accidents are told in a humorous vein in a new booklet released by Walter G. Legge Co., Inc., 101 Park Ave., New York 17. Entitled "Mr. Higby and the Gremlin," the 16 page illustrated booklet tells how safety records can be improved while eliminating wasteful maintenance practices at the same time.

For more details circle #697 on mailing card.

• Alundum aggregate for terrazzo and cement floors is discussed in Catalog 1935 released by the Norton Co., Worcester, Mass. The non-slip protection and wear resistance of Alundum floor products is stressed and the various products are illustrated and described in detail. Typical installations are also pictured in the eight page catalog.

For more details circle #698 on mailing card.

• A Locker Room Design File has been prepared by the Moore Company, 1036 Quarrier St., Charleston, W.Va. The 40 page study covers the design of change rooms with overhead locker baskets and sets forth standards to be maintained in the toilet, shower and locker room for maximum sanitation, efficiency and economy.

For more details circle #699 on mailing card.

• Information on the working characteristics of Pyrex and Vycor brand glasses is found in the newly revised edition of "Laboratory Glass Blowing With Pyrex Brand Glasses." Brought out by Corning Glass Works, Corning, N.Y., the 20 page pamphlet also includes fundamental glass blowing operations and recommendations for suitable tools and equipment.

For more details circle #700 on mailing card.

• A handy condensed buying guide on basic types of thermostatic water mixing valves is offered by Leonard Valve Co., 1360 Elmwood Ave., Cranston 7, R.I. Technical data on sizes, capacities and other specifications are given in catalog CBG 55.

For more details circle #701 on mailing card.

• Solar-Selecting Glass Block No. 80-F is described and illustrated in a new booklet brought out by The Kimble Glass Co., Toledo 1, Ohio. The new glass block is designed for southern exposures to reject unwanted solar heat and light when the sun is at or near 45 degree altitude.

For more details circle #702 on mailing card.

• "Planning Manual for Educational Science Laboratories," Section 5A, 1955 Edition, is now available from the Kewaunee Mfg. Co., Adrian, Mich. A number of basic layouts, prepared with the cooperation of architects and secondary school personnel, are presented in the 48 page booklet. In addition to the floor plan layout drawing, there is a room perspective drawing for each laboratory plan offered, illustrating the science equipment in detail and in proper location. The manual offers the experience of Kewaunee Laboratory Equipment engineers at no cost.

For more details circle #703 on mailing card.

• Catalog S-55, available from Dor-O-Matic Div. of Republic Industries, Inc., 4446 N. Knox Ave., Chicago 30, discusses Dor-O-Matic door controls. The four automatic Invisible Dor-Man models and the twenty-five manual control models available from the company are described and illustrated in the eight page catalog.

For more details circle #704 on mailing card.

Suppliers' News

General Foods Corp., North St., White Plains, N. Y., announces the establishment of a new Institutional Products Division. The new division will be responsible for sales of products formerly handled by the institution department of the GF Sales Division, the Maxwell House Division and Good Seasons Salad Dressings.

Joseph Goder Incinerators, Inc., manufacturer of institutional and commercial incinerators, announces opening of its new plant at 4241 N. Honore St., Chicago 13.

Koch Refrigerators, Inc., manufacturer of commercial refrigeration equipment, announces removal of its office and manufacturing facilities from North Kansas City, Mo. to its new plant at 401 Funston Rd., Kansas City, Kans.

Minnesota Mining & Mfg. Co., 900 Fauquier St., St. Paul 6, Minn., manufacturer of "Scotch" tape, magnetic tape and other products, announces the opening of a new central research laboratory building, the first unit in its new research center. The new building has accommodations for more than 200 scientists. Featured at the dedication of the new unit were the varied applications of 3M varieties of tape.

PROD

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Paper Towel Dispenser

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Dolge Company, C. B.
Detergent

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When, in either an advertisement or "What's New" you locate the product, turn to the index to advertisements on the preceding page or to the index of "What's New" items (right) where you will find the key number for the item. Items advertised are listed alphabetically by manufacturer. "What's New" items are in Key Number order. Circle the corresponding key number on the card below for each item in which you are interested. The second card is for the use of someone else who may also want product data.

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When, in either an advertisement or "What's New" you locate the product, turn to the index to advertisements (left) or to the index of "What's New" items on the following page, where you will find the key number for the item. Items advertised are listed alphabetically by manufacturer. "What's New" items are in Key Number order. Circle the corresponding key number on the card below for each item in which you are interested. The second card is for the use of someone else who may also want product data.



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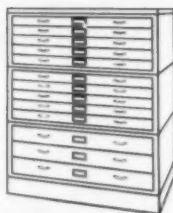
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